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ABSTRACT

Through its Public Involvement and Education (PIE) Model Projects Fund, the Puget Sound Water Quality Authority has helped local organizations provide education and public involvement programs that help solve local environmental problems. This catalog describes 96 projects successful in addressing the issue of water quality. The projects are reported in six categories: (1) Understanding Watersheds; (2) Preventing Nonpoint Pollution; (3) Preventing Stormwater Pollution; (4) Protecting Wetlands; (5) Protecting Fish, Wildlife, and Shellfish Habitat; and (6) Involving the Public in Water Quality Decisions. Each project description includes sponsors, amount of PIE funding, target audience, additional resources, area covered, purpose, products, audience responses, project coordinators, project timeline, methods uses to implement the project, and results. PIE Project selection and evaluation criteria are included in the introduction. An index is provided. (MDH)

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EDUCATING FOR ACTION

More Success Stories From Puget Sound

SE 055 663

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EDUCATING FOR ACTION

More Success Stories From Puget Sound

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David Gordon and Associates

June 1993

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PUGET SOUND
WATER QUALITY
AUTHORITY

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INTRODUCTION

In 1987, the Puget Sound Water Quality Authority developed a bold approach to water quality education. Through its Public Involvement and Education Model Projects Fund (or PIE Fund), the Authority entered into contracts with local organizations to provide education and public involvement programs that help affect local audiences and solve local or regional environmental problems.

Since the creation of the PIE Fund, about 150 projects have been completed and over one million Puget Sound residents of Puget Sound have been served by PIE Fund programs. Today, stories of local and regional water quality successes abound. This book is a catalog of many of those success stories.

Let's define success. From our perspective, a PIE Fund project succeeds when a creative and committed individual or group:

- Identifies a water quality problem that affects them and Puget Sound;
- Figures out what is needed to better understand and solve the problem; and
- Organizes and presents this information clearly and in ways that encourage their audiences to take appropriate actions, putting project information to work in their daily lives.

In addition, successful PIE Fund projects serve as models that can be adopted by other organizations and put to work in new settings. For example, Kitsap County's *Tracking the Thunderbird* watershed game (described in detail on page 43) was a replica of *Tracking the Dragon* (page 41), a highly successful project initially developed by the Wild Olympic Salmon organization of Jefferson County. By improving parts of the original game and adapting it to fit new surroundings, project leaders could easily enhance their county's strategy to clean up its part of Puget Sound.

PIE Fund projects also succeed when they encourage others to take part in cleaning up and protecting Puget Sound. This happens in many ways. For example, prior to starting its project, the Puget Sound Partners for Environmental Education program (page 21) enlisted a parks district, a neighboring city, two school districts and a paper mill to work together on

watershed education. After the project began, a major bank, a third city and a major timber corporation joined in.

Ultimately, the success of the PIE Fund program rests in the assumption that everyone has a stake in Puget Sound. With encouragement and some financial resources, everyone can find ways to help themselves and others in their community think and act to keep Puget Sound clean.

Peer Education

It's human nature that we look to people like ourselves for advice—and for recognition when we do what we feel is right. That's why a major emphasis of the PIE Fund is on peer education.

Through peer education, water quality problems and their solutions are viewed from the unique perspectives of project teams and their audiences. For example, workers at a paper mill may think of water quality in terms of the product they produce, their standing within their community and the need to protect the local resources that they cherish. Other members of the community may regard water quality as a precious resource—one that must be carefully protected and passed on to future generations. Of course, both groups are right! However, each will have different ways of learning about water quality, different forums in which water quality can be discussed and different ways of reinforcing the lessons that will be taught and supporting the actions that their audiences will ultimately take.

Effective water quality education programs honor an audience's own values about water quality. They also focus on messages and techniques that are

PIE PROJECT SELECTION

Criteria for selecting PIE projects parallels the long-range education strategy of the Education and Public Involvement Advisory Group (EPIG), a 12-member group composed of representatives from education, business, media, agriculture, citizen groups, and federal, state, local and tribal governments. Using the long-range strategy as a guide, the Authority determined that projects eligible for funding should:

- Contribute to developing an ethic that promotes protecting Puget Sound as a treasure;
- Move beyond the "us versus them" attitude and emphasize water quality as being in everyone's self-interest;
- Focus on local issues and resources and how they relate to the larger picture, thus promoting a sense of place; and
- Emphasize interesting, innovative activities that involve people, put them in charge of decisions, and lead to local action.

In addition, all PIE proposals are assessed for:

- Strength of their proposed program design and method for reaching target audience;
- Demonstrated abilities of the group (and consultant if applicable); and
- Justification of cost.

The upper limit to funding any individual project is $40,000.

appropriate to that audience. Who can know these values, messages and techniques better than a person or an organization specifically identified with that audience?

Peer education does more than just teach water quality in "user friendly" terms. It lets a group declare its own commitment to water quality and recognize or reward those friends, neighbors and business associates who act responsibly. It also makes irresponsible parties answer to their peers—in some instances, their competitors; in others the people who work alongside them.

Evaluating Program Effectiveness

Before a project can serve as a model, it must be developed and tried. Then, it must be evaluated. Were project goals achieved? How could project methods be improved? What were the unexpected outcomes of the project? The answers to these questions will prove equally useful for people who wish to continue a project beyond the scope of its original PIE funding or for those interested in trying to start a new program that builds on an existing PIE project.

For every PIE Fund project, contractors must envision the outcomes of their efforts. At the end of the project, they must analyze their successes and failures to see just how the program matched up to the original vision. It's important for every PIE contractor to remember that, if seen from a constructive viewpoint, even a project's shortcomings can represent a successful outcome.

Putting PIE Fund Models To Work

PIE models are not an attempt to "reinvent the wheel." There are really two good reasons that the PIE Fund encourages individuals and organizations to recreate PIE projects in new settings.

First, whenever a good "wheel" has been developed within the PIE Fund program, it's important to

EVALUATING PIE FUND PROJECTS

Evaluating PIE Fund projects means looking at all kinds of outcomes of the program:

- Is Puget Sound (or the local environment) any better off than it was before the project?
- Have the behaviors of organizations or individuals changed in ways that benefit Puget Sound?
- Was the target audience carefully identified and the right people invited to participate?
- Did the target audience receive the information that the project sought to teach? Was the audience receptive to its teacher? Was the information skillfully presented?
- How smoothly did the program operate?
- Were project people and dollars utilized effectively?

improve upon it. The process of improvement carries many rewards: for relatively inexperienced program leaders, replicating previous PIE Fund projects is a good introduction to the PIE Fund, to program planning and management and to water quality education in general; for more experienced program leaders, there are benefits to taking a previous PIE project to a new audience, into a new geographic area or to new heights of accomplishment.

Second, a replicated PIE project can hardly be considered just another "wheel." The sum total of its improvements—its refined message, freshly defined audience and custom-tailored approach—make each project unique. New ideas are born everyday; new groups of people awaken to the possibilities that water quality is important in their lives; new tools and technologies are created that improve communication. There will always be a need for new and better wheels.

Whether you intend to invent a new wheel, or redesign one that someone else invented, use this book to learn what has—and hasn't—been done before. Ninety-six projects are described in this volume, a companion piece to *Public Involvement and Education Model Projects Fund: 47 Success Stories from Puget Sound*, produced by the Puget Sound Water Quality Authority in 1990. For ease of presentation, these projects have been divided into six categories and appear in separate chapters of this publication. All of these categories reflect the goals and priorities of the Puget Sound Water Quality Management Plan. Because successful projects will often serve several different functions and can address several different audiences, many of the projects in this book could easily have been placed in more than one category.

Should you choose to replicate a PIE Fund project, talk to the original project coordinators (their names, addresses and phone numbers are listed). Find out why they developed their ideas, how they generated support for it, how the parts fit together, what did and didn't work and what they would do differently. Use their success stories as foundations for new programs, and the experiences of these audiences as building blocks for the experiences of new audiences.

Robert Steelquist,
Public Involvement and Education Program Lead
Puget Sound Water Quality Authority

UNDERSTANDING WATERSHEDS

There is a certain paradox to understanding water quality in Puget Sound and what individuals can do about it. On the one hand, the sheer scale and complexity of the problem discourages us from taking specific actions. ("What can I do? It's those people upstream who are the polluters.") On the other hand, the many solutions being carried out by individuals at a local level often add to the complexity, creating more problems. ("There is not enough coordination.")

This paradox requires a different way of thinking about water quality, water quality solutions and our own actions – an approach that includes both the big picture and the importance of local and individual action.

Over the years, we have learned that old ways of thinking about water or water quality solutions don't meet the challenge. Traditional solutions involve looking at the resource too narrowly, assigning responsibility (and blame) to others and missing the point that everything in the environment is connected.

The watershed perspective offers another way of thinking, seeing, sharing responsibility and acting. The watershed is the big picture – comprised of an infinite number of smaller pictures. By seeing ourselves in the smaller pictures, we can form the mosaic of the whole watershed and the roles and places of others.

Watershed thinking requires new tools. Maps that answer questions like: What are our watershed's boundaries? Where does the water come from? Where does it go? Experiences like field trips that reacquaint us with our neighborhoods – from a stream, storm drain or sewer point of view. Explorations that take us under the kitchen sink or to the crest of the mountains. Posters that remind us of "our" watersheds, whether that means all of Puget Sound or what we pour down the drain. Watershed thinking helps us sort big water quality problems into little ones – the kind we can fix.

In the next section, you'll find PIE Fund projects that have tried to help people understand their watersheds – what makes them unique, how the parts are connected and what actions help or hurt the watershed as a whole.

Key Audiences for Watershed Projects

YOUTH
As family members, among their peers, in schools or as individuals

HOMEOWNERS
Including landlords and tenants

BUSINESS
Community leaders, developers, chambers of commerce and service organizations

GOVERNMENT
City and county government agencies

SCHOOLS
Teachers and students

NONPROFIT ORGANIZATIONS

INDIAN TRIBES

Look for these symbols in each of the PIE project descriptions to find out which audiences the project coordinators targeted.

Key Strategies for Reaching Audiences for Watershed Projects

- ❑ Books
- ❑ Workshops
- ❑ Tours
- ❑ Models
- ❑ Exhibits
- ❑ Stories
- ❑ Festivals

Badges and Beads

Youth Group Advancement and Achievement Awards

Sponsor

Pacific Western Services, Inc.

PIE Funding

$ 20,000

Target Audience

Participants of Campfire, Girl Scout and Boy Scout programs.

Area Covered

Kitsap, Pierce, King, Thurston, Mason, Snohomish and Whatcom counties.

Purpose

To add water quality education components to Scout badge, patch and emblem advancement and achievement programs.

Products

A total of 46 separate curriculum packets.

Unexpected Challenge

The original drafts of leader preparation materials were criticized as being too difficult—a charge that was confirmed when the GRAMMATIK IV software package assessed the reading level of the materials as that of a college graduate! The criticism remained, even after a rigorous edit simplified the text to a 10th grade level.

Project Coordinator

Kathleen Bright
Pacific Western Services, Inc.
3594 NW Byron
Suite 202
Silverdale, WA 98383

(206) 692-2602

Project Timeline

1989-1991

Methods

- Creating Girl Scout, Campfire and Boy Scout water quality-related insignia achievement programs.
- Preparing curriculum sets and educational resources to meet the specific requirements of each insignia achievement program.
- Assisting adult leaders to instruct and guide their Scouts to meet program requirements and earn badges, patches and beads.

Results

- Training materials are now available to 14,000 Boy Scouts, 15,000 Girl Scouts and 4,400 boys and girls in Campfire programs.
- Comprehensive background materials, with essays, maps, diagrams, stories, games and handouts, were provided to leaders.
- A special format was developed that corresponds with the existing "Earth Matters" program of the Girl Scouts.

Notes

The adoption of environmentally positive behavior requires recognition from our peers. This project built upon the motivation and reward systems traditionally used in Scouting and Campfire programs. It integrated water quality information into a new context to personalize and localize knowledge, skills and behavior necessary to protect watersheds.

Cycles of the Sound

Sponsor

Environmental Perspectives

PIE Funding

$ 40,000

Additional Resources

In-kind materials, equipment and studio recording.

Target Audience

Radio audience in Whatcom County and southern British Columbia.

Area Covered

Northern Puget Sound

Purpose

To elevate the quality of public awareness and involvement in water quality issues affecting the Puget Sound region on both sides of the U.S./ Canadian border through in-depth radio programs.

Products

Thirteen half-hour radio programs on regional water quality issues such as wetlands, stormwater, municipal and industrial discharges, shellfish protection, contaminated sediments, flood control, dredging, nonpoint source pollution, salmon habitat, marine debris, household hazardous wastes, oil spill contamination, drinking water, and the Growth Management Act.

Unexpected Challenge

The half-hour programs were too short to include all important information.

Audience Response

"Beautifully produced!"

"Fascinating material!"

—Radio listeners

Project Coordinator

Valerie Fisher
Environmental Perspectives
2800 Haxton Way
Bellingham, WA 98226

(206) 650-4907

Project Timeline

1991-1993

Cycles of the Sound, continued

Methods

- Working with a technical advisory committee of scientific experts, Native American leaders, government officials, community activists and educators to interpret scientific research, choose interviewees, review interview questions and responses, and ensure scientific accuracy of each program.
- Presenting listeners with thought provoking programs about the quality of the region's water and about issues such as residential, commercial and industrial activities which endanger or enhance water quality.
- Giving listeners the tools to develop informed questions and ideas and to help them access research materials, public agencies and elected officials by distributing information packets and a research bibliography on request.
- Promoting the programs in Whatcom County and distributing them to at least five Puget Sound area broadcasting stations.

Results

- Thirteen half-hour radio programs broadcast by eight stations from Victoria, B.C. to Olympia, Wa.
- Over 300,000 radio listeners were reached based on listener information from radio stations.

Notes

"Broadcasting" is a method of getting information spread over a large area at a relatively low cost. As a way of raising awareness it has its limits, yet within those limits it can be a powerful tool. This project used documentary radio journalism — the kind most often heard on public radio stations — to explore water quality issues in western Washington and southwestern British Columbia. The "feature" format was chosen because it allows greater depth than other radio formats.

Drayton Harbor Watershed Tours

Sponsor

City of Blaine

PIE Funding

$ 15,240

Additional Resources

Businesses, the Whatcom County Parks Department, the Whatcom/WSU Cooperative Extension and the Soil Conservation Service donated time, labor and materials.

Target Audience

Businesses, realtors, developers, fisheries, boaters, government agencies and area residents.

Area Covered

City of Blaine and Drayton Harbor

Purpose

- To maintain the approved status of Drayton Harbor's commercial shellfish areas and work toward establishing additional approved areas in the harbor.
- To improve water quality in the Drayton Harbor watershed by affecting the activities and decision-making processes that influence the watershed.

Products

Watershed guidebook that provides the framework and site-specific information for the watershed tours.

Unexpected Challenge

One of the tour's strongest points was that we attracted people of all ages. It also turned out to be a challenge. It was tough to talk about the watershed in a way everyone would understand. Also, the walking part of the tour was tough for the elderly participants.

—Becky Peterson, project manager

Project Coordinator

Becky Peterson
Drayton Harbor Watershed Study
1203 Cornwall
Suite 104
Bellingham, WA 98225

(206) 676-6974

Project Timeline

1991-1992

Drayton Harbor Watershed Tours, continued

Methods

- Conducting three tours of the Drayton Harbor watershed—two for adults and one for children—to show nonpoint pollution sources, best management practices and beneficial uses of the watershed, such as shellfish beds and fish spawning areas.
- Establishing an advisory/planning committee to assist in organizing the watershed tours, which were modeled after a previous (1991) tour of nonpoint pollution source locations in the watershed.
- Preparing a guidebook with information on nonpoint pollution sources, how they affect water quality and what individual actions can be taken to reduce nonpoint pollution.
- Arranging presentations on water quality for each of the target groups prior to the tour.

Results

- Eighty people participated in the tours and learned about habitat protection and best management practices for on-site sewage treatment systems, farms and dairies.
- Watershed residents continue to request additional tours.
- Washington State University Cooperative Extension staff in Whatcom County are being trained through the Watershed Masters Program to conduct future watershed tours.

Notes

A shellfish bed closure in 1988, due to nonpoint pollution problems, highlighted the need for people in and around Blaine to see their watershed as a whole. Their first step was to gain an understanding of the cumulative effects of many individual actions and problems. The watershed tours provided a way of letting people experience how nonpoint pollution problems are interrelated. From that common experience participants could better assess the scope of the problem and options for solutions.

DUWAMISH REVISITED

SPONSOR

American Indian Heritage School with VanderHowen Public Relations

PIE FUNDING

$ 25,090

ADDITIONAL RESOURCES

$ 10,000 from the school, plus $10,000 in donated teacher time. TCI Cable donated studio, equipment and staff to tape and edit the play.

TARGET AUDIENCE

Urban and minority high school students at the American Indian Heritage School and urban elementary students in Seattle.

AREA COVERED

Seattle School District

PURPOSE

- To promote the primary Indian Heritage value of respecting and caring for the Earth and its creatures.
- To integrate ecological concepts with the Native American history of the Duwamish River.
- To teach students about the river's importance to the region and how they can help monitor the river.
- To establish bonds among Washington's Native American community, non-Native students, residents and corporate sponsors.

PRODUCTS

- Video of the play *Sister River and the Two-Leggeds.*
- *Duwamish Revisited* brochure.

UNEXPECTED OUTCOMES

Salish Indian historian and storyteller Vi Hilbert gave the project team permission to use her grandfather's spiritual song in the play. The group was invited to a World Youth Environmental Conference in the Phillipines, but could not attend due to cost.

The project team plans to take the play to the United Nations as part of the 1993 Year of the Indigenous Peoples. Metro plans to expand the program to include students in other Seattle schools. The project was nominated for a Washington Environmental Education Award.

PROJECT COORDINATOR

Bob Eaglestaff
American Indian Heritage School
1330 N. 90th Street
Seattle, WA 98103

(206) 298-7895

PROJECT TIMELINE

1992-1993

Duwamish Revisited, continued

Methods

- Using the Duwamish River as the focus for teaching ecology, biology, drama and public speaking.
- Creating a unique Native American presentation that ties culture to science.
- Teaching Indian values and water quality concepts in a way that encourages action from others.
- Training teams of students to test and monitor water quality of the Duwamish River, with Municipality of Metropolitan Seattle (Metro) staff performing the training and analyses for the monitoring.

Results

- Fifteen students participated in the Duwamish River class. One hundred forty-four American Indian Heritage School students directly took part in the program.
- The students produced a play titled *Sister River and the Two-leggeds*. The play was performed at the annual Earth Mother pow-wow and later videotaped in a professional studio.
- Middle and high school students made 26 presentations to over 1,000 fourth, fifth and sixth graders.
- The project team produced a brochure on the Duwamish River and its history plus helpful hints on recycling and other individual actions.
- Students were tested on their knowledge about water quality before and after the presentations—all showed more interest and greater knowledge following the presentations.

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Notes

This project drew from a long-standing partnership between the American Indian Heritage School and VanderHoven Public Relations. The project assembled an advisory committee including Native elders and helped students place the Duwamish River watershed in its cultural context. Students incorporated traditional Native stories into their own contemporary "legend," which they presented during visits to elementary schools throughout Seattle.

Festival of the River

Sponsor

Stilliguamish Indian Tribe

PIE Funding

$ 15,000

Additional Resources

$ 11,600 grant from Washington Commission for the Humanities.

Target Audience

Snohomish County residents, particularly those in the Stilliguamish River watershed.

Area Covered

Snohomish County

Purpose

To celebrate the Stilliguamish River and watershed, using the festival as an opportunity to focus on water quality education and promote an enduring ethic to protect the river.

Audience Response

"It was a true celebration of the river...not only to enjoy but to come away with a feeling of purpose and comfort...If you had an ear, you could learn about riparian buffer zones; the place for people in nature; native plants and how they change near the river and how the river has changed during the past 100 years of settlement."

—The Arlington Times, August 22, 1990

Project Coordinator

Catherine Clausen
Stilliguamish Tribe
3930 Fielding Ave.
Bellingham, WA
98225

(206) 676-0678

Project Timeline

1989-1991

Festival of the River, continued

Methods

- Sponsoring a two-day festival in River Meadows Park, including activities and materials on a wide range of water quality issues.
- Offering a class for teachers, using the watershed as a living classroom to show how water ties together all aspects of environmental education.

Results

- Twenty-five agencies and organizations set up displays or sponsored activities pertaining to water quality education at the festival, which was held on August 18 and 19, 1990.
- Teachers who completed the class gained knowledge of timber issues in the watershed through visits to Summit Timber, the U.S. Forest Service headquarters and Viking Hill Christmas Tree Farm.

Notes

The adoption of a holiday represents perhaps the highest expression of community recognition of shared beliefs and values. "Festival of the River" creates an annual community celebration where the watershed itself is honored. The event continues to occur without additional funding from the PIE Fund.

From the Mountains to the Sea:
A Guide to the Skagit River Watershed

Sponsor
North Cascades Institute

PIE Funding
$ 11,000

Additional Resources
In-kind technical research.

Target Audience
Skagit River watershed residents and visitors, including schools and representatives of business, regional organizations and government agencies.

Area Covered
Skagit River watershed

Purpose
To enhance public understanding and appreciation of the resources in the Skagit River watershed and to educate them about how to become involved in its protection.

Products
From the Mountains to the Sea: A Guide to the Skagit River, a 64-page handbook describing the Skagit River watershed.

Unexpected Challenge
Some agencies, organizations and interests in the watershed viewed the guide as an opportunity to promote their own point of view. It took time and considerable effort to sort fact from opinion, coming up with a balanced book that speaks for the watershed.

A Life of its Own
North Cascades Institute offers financial assistance to any other group or author wishing to produce a similar work on other river systems in Washington.

Project Coordinator
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North Cascades Institute
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(206) 856-5700

Project Timeline
1989-1991

From the Mountains to the Sea, continued

Methods

- Researching the issues and topics of interest and concern in the watershed.
- Compiling pertinent maps, figures and illustrations.
- Designing, producing and distributing a field handbook with maps, charts, references and resources for citizen involvement.

Results

- *From the Mountains to the Sea: A Guide to the Skagit River Watershed*, a 64-page handbook, describes the origins and geology, weather and climate, life zones and habitats, endangered species, fisheries, native people, explorers and settlers, ways of getting involved in protecting the watershed, references and an appendix on the wildlife in the watershed.
- 1,500 copies of the handbook were distributed to agencies, organizations, schools and individuals.
- The handbook is used as a textbook at two state universities.

Notes

Much of the Skagit River watershed is mountainous and wild, inaccessible to most of its residents. This project created a book that portrays the natural and cultural dimensions of the watershed in a way that lets people know about the watershed even if they cannot experience it directly. For the Skagit, the book forms the most comprehensive gathering of knowledge available in print.

Kitsap Water Watchers Program

Sponsor

Kitsap County Public Utility District #1

PIE Funding

$ 30,990

Additional Resources

An estimated $ 20,000 in administrative costs, such as computers, copying, phones and travel.

Target Audience

Kitsap County residents

Area Covered

Kitsap County PUD #1 and Dyes Inlet

Purpose

To motivate and train a large number of people to ensure improvements to the water quality of Dyes Inlet and its watershed.

Products

Streamwatcher's Guide, a citizen guide to stream watching, habitat inventories and monitoring.

Unexpected Challenge

Replicating a previous PIE model was not as easy as it initially appeared. Having access to a standardized notebook (which could be enhanced with local materials) would facilitate future replications, as would having a packet of generic posters, news blurbs and suggested contacts. Storing all this information on computer disk would also make modifications easier.

A Life of its Own

The PUD has helped set up Water Watchers classes in other parts of the county. The model and materials have already been passed on to Mason and Pierce counties.

Audience Response

"I was able to form... opinions. Great learning about not jumping to conclusions when working with people of different backgrounds and values. Enjoyed time in field [seeing] what is going on in the community."

Project Coordinator

Dixie Dragich *or*
Kathy Dickerson
Kitsap Co. PUD #1
P.O. Box 1989
Poulsbo, WA 98370

(206) 779-7656

Project Timeline

1989-1991

Kitsap Water Watchers, continued

Methods

- Adapting the curriculum and notebook from the Bay Watchers program (as described in *Public Involvement and Education Model Projects: 47 Success Stories from Puget Sound*) to address Dyes Inlet issues.
- Conducting two sets of classes, addressing an array of topics, including watersheds, wetlands, groundwater, soils, septic systems, hazardous waste, aquaculture, marine debris, recycling, landscaping and conservation.
- Assisting class participants with individual, course-related service projects.

Results

- Sixty people graduated from the Water Watchers program.
- Graduates are serving as community consultants, classroom resources and monitors on beaches, lakes and streams.

Notes

The Water Watchers program is one of several successful replications of an early PIE project known as Bay Watchers. These programs develop a comprehensive training program on water quality issues for citizens who volunteer to serve the community as resource people. These programs develop a community network of concerned and knowledgeable watershed residents — local citizens who can be peer educators to their neighbors and valuable resources to organizations actively protecting water quality.

North Kitsap Water Watchers

Sponsor

Greater Hansville Chamber of Commerce

PIE Funding

$ 15,000

Target Audience

Residents of Hansville, Port Gamble, Kingston and Poulsbo.

Additional Resources

$ 1,200 for materials and trip fees, plus 700 volunteer hours.

Area Covered

Greater Hansville and North Kitsap County.

Purpose

To educate area residents on water quality issues and actions.

Products

Water Watcher's Manual

Unexpected Outcome

Program graduates are helping to conduct an official survey of plant and animal life in the Hansville and Point No Point wetlands.

Audience Response

"I've heard some profound statements in this class. When I heard that biologist say, 'the Physht River has lost the salmon'... my grandfather was raised on that river. I just felt like I had to do something."

—quote from North Kitsap Water Watchers graduation night

Project Coordinator

Sid Knutson
Greater Hansville Chamber of Commerce
5100 NE Admirality Way
Hansville, WA 98340

(206) 638-2869

Project Timeline

1990-1991

North Kitsap Water Watchers, continued

Methods

- Adopting the curriculum of Sequim Bay Watchers and the Master Gardener model, both developed in previous rounds of PIE funding (see *Public Involvement and Education Projects Fund: 47 Success Stories from Puget Sound* for more information).
- Recruiting, training and certifying volunteers as Master Water Watchers, supervising community action programs to protect area water quality in North Kitsap County.
- Providing hands-on, boat-based training in marine ecology, using staff from the Port Townsend Marine Science Center.
- Initiating and facilitating Master Water Watchers publication programs.

Results

- Thirty-one Master Water Watchers graduated from 11 Water Watcher classes.
- A North Kitsap Water Watcher volunteer organization was established; participants have made commitments to volunteer 35 hours each in support of action projects.

Notes

As a group, the Greater Hansville Chamber of Commerce has made environmental protection and quality of life a central community development goal for Hansville and the surrounding area. In this project, the chamber conducted training and outreach to area residents specifically to underscore the necessary links between healthy business and a healthy environment.

PUGET SOUND PARTNERS

SPONSOR

Steilacoom Historical School District #1 with Boise Cascade Corporation and the Metropolitan Park District of Tacoma.

PIE FUNDING

$ 20,525

TARGET AUDIENCE

Citizens and businesses in Steilacoom, Foss High School students, Boise Cascade employees and staff and visitors at the Snake Lake Nature Center.

AREA COVERED

Clover/Chambers Creek watershed and Pierce County

PURPOSE

- To enable students, industrial employees and urban residents to understand issues and activities that affect water quality within the watershed.
- To help people accept their roles as stewards and to recommend specific actions for protecting the watershed.

PRODUCTS

- Self-guide pamphlets for field trips to and a field guide of the Clover/Chambers Creek watershed.
- *A Living Watershed*, video on the Clover/Chambers Creek drainage basin.
- Interpretive displays at Snake Lake Nature Center.
- Four sets of interpretive panels illustrating environmental, social and economic effects on and uses of the watershed.

PROJECT COORDINATOR

Alonda Droege
Steilacoom Historical School District
510 Chambers St.
Steilacoom, WA 98388

(206) 588-1885

PROJECT TIMELINE

1991-1993

Methods

- Producing interpretive materials and a video about individual roles in cleaning up and protecting the watershed.
- Conducting site visits to locations that illustrate the cultural history, natural history and economic resources of the watershed.
- Designing an ongoing surface water monitoring program for high school students.
- Developing a printed guide for watershed tours and field trips by high school students, Boise Cascade employees and the public.
- Producing and installing a series of five interpretive displays in the watershed.

Results

- A field trip and community event involved approximately 500 high school students.
- During the first year, interpretive displays were viewed by an estimated 50,000 visitors to the Nature Center at Snake Lake.
- Two hundred and fifty Boise Cascade employees were involved in the program.

Notes

The watershed concept is inclusive by nature. Encouraging participation by a wide variety of watershed residents, whether they be businesses, citizens, governments or schools, strengthens both the formal and informal networks that can protect the watershed.

Puget Sound Partners for Environmental Education

Sponsor

Marine Science Society of the Pacific Northwest

PIE Funding

$ 18,069

Additional Resources

$ 11,771 from other sources for employee support costs, guest speakers' fees and other expenses.

Target Audience

Upper elementary and secondary teachers in the North Kitsap School District.

Area Covered

Kitsap County

Purpose

To support implementation of Washington's Environmental Education Mandate through an interdisciplinary curriculum, emphasizing solutions to environmental problems of the Puget Sound basin.

Products

Fifteen classroom kits to supplement the Puget Sound Project curriculum.

Unexpected Outcome

Voluntary assistance with this project came from several unexpected sources—student teachers from the University of Washington and interns from Antioch University. In addition, portions of the high school teachers' workshops were taught by the advanced class (juniors and seniors) at the Poulsbo Marine Science Center.

Project Coordinator

John D'Amore
Marine Science Society of the Pacific NW
P.O. Box 2079
Poulsbo, WA 98370

(206) 779-5549

Project Timeline

1991-1993

Puget Sound Partners for Environmental Education, continued

Methods

- Providing action-based in-service training for elementary and secondary educators, based on the Puget Sound Project curriculum (as described in *Public Involvement and Education Model Projects Fund: 47 Success Stories from Puget Sound*).
- Enabling exemplary classroom teachers to lead and facilitate a day-long workshop of the Puget Sound Project at the Marine Science Center.

Results

- Forty-five teachers now have the knowledge to present the Puget Sound Project curriculum in their schools.
- Guides and kits distributed to teachers will help with classroom activities.
- An effective program was developed for training teachers in the continued use of the curriculum.

Notes

This project extended the scope of an earlier PIE project. The first project was the development of curriculum materials with Sound-wide application. In this project, the curriculum materials were modified and presented to interdisciplinary teams of teachers during training workshops that focused on one school district. By intensively developing the skills of teams of teachers, the curriculum will be fine-tuned and adopted at the district level. This has resulted in "learning" for the school district and individual schools, as institutions.

Puget Sound Wake of the Explorers:
Reenacting Vancouver's Discoveries

Sponsor

Pure Sound Society

PIE Funding

$ 22,000

Additional Resources

$ 45,000 was raised from other sources.

Target Audience

Participants in the International Maritime Bicentennial.

Area Covered

Soundwide

Purpose

- To bring an environmental education focus to the 1992 International Maritime Bicentennial in Washington, Oregon and British Columbia.
- To provide a boat-based environmental/water quality education program within the context of reenacting the route of Captain George Vancouver in the spring of 1792.
- To participate in environmental challenges and water quality issues from historical and ecological perspectives.
- To help students acquire knowledge about the ecological components of Puget Sound and develop skills for cooperative action on behalf of the environment and water quality.

Products

- *Puget Sound Wake of the Explorers Curriculum Guide.*
- 13,000 *Wake of the Explorers* brochures.

Unexpected Outcome

The project is being carried out in other communities in Puget Sound, British Columbia and Oregon.

Project Coordinator

Brad Wetmore
Pure Sound Society
P.O. Box 526
Vashon Island, WA
98070

(206) 463-5607

Project Timeline

1992-1993

Puget Sound Wake of the Explorers, continued

Methods

- Replicating Pure Sound Society's original SAIL program.
- Presenting workshops to recruit participants and help teachers and students prepare to launch the program.
- Coordinating with various community groups and organizations to host educational and celebratory activities at sites along Vancouver's route through Puget Sound.
- Teaching practical skills of traditional navigation as well as providing activities designed to enhance a regional water quality protection ethic.

Results

- An estimated 17,700 people attended maritime celebrations in April and May of 1992.
- During the school segment of the program, over 880 students—50 of which were from alternative or at-risk programs—signed aboard as crew on longboats for periods of one to six days.

Notes

Understanding changes over time in the watershed requires us to gain a perspective from the past. In addition, the act of discovery often provides powerful experiences where learning is intensified. This project enabled participants to re-enact the discovery of Puget Sound by Vancouver's explorers and to envision what Puget Sound was like in 1792. From the rowing stations of historically authentic exploring boats, the students felt the pull of tide, saw the same land features and put themselves in the places of Vancouver's seamen.

Salmon Creek Basin Project

Sponsor

White Center Youth Task Force, Southwest Youth and Family Services

PIE Funding

$ 7,466

Additional Resources

$ 13,265 from Metro and local businesses.

Target Audience

Multicultural youth from the Boys and Girls Club at Cascade Middle School.

Area Covered

White Center

Purpose

- To improve and protect water quality in the Salmon Creek basin.
- To develop environmental problem-solving skills among urban youth.

Products

- *Wetland News*, a neighborhood newsletter.
- *Salmon Creek Basin Project*, a five-year youth activities plan.

Unexpected Challenge

Initially, it was difficult to establish trust among Task Force members, many of whom thought that project educators were undercover police officers. Selecting staff from the immediate community could have allowed the project to move forward more quickly.

Audience Response

"Sometimes when it rained we found motor oil in the water samples we took from Hicks Lake. We think it is from storm runoff or from the storm drain. We don't like seeing dead animals in the lake. Please be careful of disposing of hazardous materials."

—Shana Krall, Task Force member and contributor to Wetland News

Project Coordinator

Virginia Moimoi
Southwest Youth and Family Services
P.O. Box 18006
Seattle, WA 98118

(206) 722-5146

Project Timeline

1992-1993

Salmon Creek Basin Project, continued

Methods

- Working with community, county and business representatives to develop a five-year water quality activity plan for the Task Force.
- Recruiting young people from after-school programs to participate in field trips, water quality monitoring and long-range youth program planning.
- Participating in the Growth Management Act and King County White Center Community Development Plan processes.

Results

- Youth participants developed a five-year plan to guide educational programs in their neighborhood. The plan was submitted to county land use planners, the local chamber of commerce and parks department and to interested citizens and social service organizations.

Notes

Traditionally, environmental education programs are carried out through public or private "environmental" organizations. This project developed watershed and water quality education and problem-solving in the context of a neighborhood "social service" organization. The lesson is clear: a watershed is just another definition of a neighborhood. Understanding, empowerment and action are equally important for urban youth in both "environmental" and "social" contexts.

Shelton School District Watershed Education

Sponsor

Shelton School District

PIE Funding

$ 20,000

Additional Resources

$38,000 from the Shelton School District.

Area Covered

City of Shelton

Target Audience

Administrators, teachers, students and parents in the Shelton School District.

Purpose

- To coordinate with the District Science Curriculum Committee in developing a K-12 environmental education curriculum with a local watershed focus, meeting identified community educational needs and state guidelines for environmental education.
- To develop and produce a how-to guidebook for other districts.

Products

An Environmental Education Resource Section in every district library.

Project Coordinator

Don Schluter
Shelton School District
811 W. Pine St.
Shelton, WA 98584

(206) 754-7782

Project Timeline

1991-1993

Shelton School District Watershed Education, continued

Methods

- Hiring a part-time community environmental liaison as part of the ongoing Goldsborough Creek Community Action Program.
- Integrating district and school goals and learning objectives into existing interdisciplinary units with a focus on water quality education.
- Training teachers to design interdisciplinary water quality units by combining existing curriculum materials.
- Field testing and adjusting the curriculum for inclusion as part of the school district's environmental education/ science program.

Results

- Fifteen teachers participated in training and curriculum design workshops.
- Teachers chose curriculum materials which they felt best suited their students' needs for water quality eduction.

Notes

Watershed-based education forms a connecting web not only among academic disciplines but among many interrelated aspects of community life, including water quality problems. This project builds links between subject matter being taught in the Shelton schools and the natural resources of the community, which include fish, shellfish and clean water.

Skagit Watershed Education Project

Sponsor

North Cascades Institute

PIE Funding

$ 24,150

Additional Resources

$ 11,000 from the U.S. Forest Service, $7,000 from various timber companies.

Target Audience

Students and teachers in the Skagit River watershed.

Area Covered

Skagit watershed

Purpose

- To create a sense of ownership among young residents—the future stewards of the watershed.
- To help children understand and participate in the decision-making process about local landscapes and the management of natural resources.
- To produce a model for integrating language arts, social studies and sciences using curriculum materials developed for the Skagit watershed.

Products

- *Experience the Skagit Watershed* teachers' guide.
- Poster map of the Skagit watershed.
- Newsletter for the Skagit Watershed Education Project.

Project Coordinator

Saul Weisberg,
North Cascades Institute
2105 Highway 20
Sedro Wooley, WA
98284

(206) 856-5700

Project Timeline

1992-1993

Skagit Watershed Education Project, continued

Methods

- Involving schools, environmental education organizations, environmentalists, land and natural resource managers, Native Americans and business representatives in the design of a field-based environmental education curriculum.
- Holding a Skagit Awareness Festival at the area's largest shopping mall.
- Conducting training workshops for teachers, plus orientation and field trips for each participating class.
- Sponsoring a Children's Skagit Watershed Conference at the Skagit County Fairground.

Results

- Training was provided to teachers of 60 classes of fourth to sixth graders from seven school districts.
- Customized field trips were also offered to each participating school.
- 1,500 students attended the Children's Skagit Watershed Conference, featuring music, exhibits from each school district and the play *Timber*.
- Students again presented their projects and activities at the Skagit Awareness Festival, held at Cascade Mall.

Notes

In an earlier PIE Fund project, "From the Mountains to the Sea," North Cascades Institute developed a strong information base about the Skagit watershed. In this project, they adapted the book to create a curriculum guide for teachers in the watershed. The program provided a consistent base of information and training in seven school districts. This enabled the districts and individual schools to use materials and teaching practices relevant to the local environment and the needs of the districts. Several large student events mobilized the students themselves and let them interact with their peers throughout the watershed.

Sound Stewardship:
Getting Down to Business

Sponsor

Pacific Marine Research

PIE Funding

$ 29,000

Additional Resources

$ 6,818 from participant fees.

Target Audience

Members of Kiwanis Clubs throughout the Puget Sound region.

Area Covered

Soundwide

Purpose

To educate business people about pollution and strategies for change, through first-hand experiences on Puget Sound.

Products

Shining Water: Caring for Puget Sound video

Unanticipated Success

In honor of the Sound Stewardship program, Governor Booth Gardner proclaimed March 3 - April 7 "Science at Sea Expedition Days."

Project Coordinator

Robert Martin
Pacific Marine Research
P.O. Box 31137
Seattle, WA 98103

(206) 784-1631

Project Timeline

1989-1991

Sound Stewardship, continued

Methods

- Enlisting the participation of Kiwanis Clubs throughout the Puget Sound region.
- Conducting field trips aboard a research vessel.
- Preparing and distributing handouts listing ways people can promote clean water.
- Soliciting pledges from participants to take action.
- Producing a video of the program's content.
- Presenting the video and educational program to Kiwanis Club members unable to attend field trips.

Results

- Twelve boat trips took a total of 974 participants on one-day field trips. The on-board experience included background lectures, collecting and studying sea water and plankton, examining (and eating) a sea cucumber and participating in a televised dive to a combined sewer overflow site where participants communicated directly with the diver who toured the underwater site.
- A Kiwanis-sponsored pledge drive yielded over 900 personal commitments to take action and protect the Sound.
- One boat trip was videotaped and the tape was the core of a program presented at 25 other Kiwanis meetings.

Notes

Understanding a watershed ecosystem involves direct experience and knowledge. This is as true for adults as for children. This program used many practices common in youth education to introduce members of the business community to Puget Sound. Rather than focus only on specific knowledge or appeal to a narrow set of interests, this program began with the basics — a high-quality outdoor experience. Once grounded with a common experience, the participants were introduced to the ideas surrounding water quality. Organizers charged a program fee hoping that a business-minded audience would value more highly an experience they had "paid for."

Sound Wisdom

Sponsor

Jana Dean

PIE Funding

$ 16,500

Additional Resources

$ 620 from Key Bank

Target Audience

Fourth and fifth graders in five schools, 100 audience members at a bookstore and museum performance, and interviewees.

Area Covered

Northeast Thurston County

Purpose

- To place communities in a "storied" relationship to Puget Sound, the Pacific Northwest and Earth, thereby strengthening individuals' connections to and reverence for the place in which they live.
- To provide teachers with a model for an innovative, interdisciplinary approach to teaching environmental education with a local focus.
- To recreate the "Sense of Place" model developed by Meeting Ground.

Products

- *Sound Wisdom, Stories of Place* booklet.
- *Sound Wisdom* audio tape.

Story Excerpt

"With the salmon, it's like with the trees. We breathe the trees and the trees breathe us. We need the salmon and the salmon need us."

—excerpt from one of Jana Dean's stories

Project Coordinator

Jana Dean
6732 Boston Harbor Road
Olympia, WA 98506

(206) 754-5869

Project Timeline

1992-1993

Methods

- Collecting oral histories and conducting folkloric, historic and scientific research.
- Transcribing and indexing those stories with water quality relevance.
- Using the stories as the basis for a 10-week interdisciplinary water quality education program.
- Presenting two evenings of water quality-related stories for parents and community members.
- Developing a booklet and audio tape of the stories. "

Results

- From the project's oral history research came "Magpie," "The Boy, the Salmon and the Bear" and three other stories with settings that were recognizable to the local audiences.
- Eighty presentations were given in five schools; two presentations in the community.
- Two hundred students participated in the program.
- The state capitol museum now has story tellers help with its tours.

Notes

Watersheds have physical dimensions — the hydrographic boundaries that separate one river's tributaries from those of another. Watersheds also have cultural dimensions reflected in the stories told about the people, animals, plants and other features of a place. In this project, stories about south Puget Sound were gathered and retold to children in area schools as part of their learning about their watersheds. Originating in Native American, pioneer, Asian and European traditions, these stories help us understand our links to the watershed, much like the "Water Cycle" helps us understand other links within it.

SOUNDKEEPER PROGRAM

SPONSOR

Puget Sound Alliance

PIE FUNDING

$ 36,000

ADDITIONAL RESOURCES

Over the course of this project the Soundkeeper annual budget grew from $ 8,000 to over $125,000 through corporate and foundation support.

TARGET AUDIENCE

Citizen organizations

AREA COVERED

Soundwide

PURPOSE

- To protect Puget Sound water quality by creating a boat-based ombudsperson program modeled after the Hudson Riverkeeper and San Francisco Baykeeper.
- To train interested citizens in water quality issues and develop a volunteer network of Citizen Soundkeepers.

PROJECT COORDINATOR

Ken Moser,
Puget Soundkeeper
Puget Sound Alliance
4516 University Way NE
Seattle, WA 98105

(206) 286-1309

PROJECT TIMELINE

1990-1991

Soundkeeper Program, continued

Methods

- Creating the position of Puget Soundkeeper.
- Establishing a Soundkeeper Hotline.
- Creating a Soundkeeper Log—a database to track reports of water pollution incidents.
- Publicizing the program through media and outreach programs.
- Developing the Citizen Soundkeeper training and volunteer activities.

Results

- Because of routine patrols, the Soundkeeper intervened in about six pollution incidents each month during the life of the project. One case was resolved directly between the Soundkeeper and the reported polluter; numerous others were referred to appropriate agencies for action.
- Forty volunteers were trained and recruited to the Citizen Soundkeeper program.

Notes

In citizen monitoring programs, volunteers become "eyes and ears" on water quality. In the Soundkeeper program, they play an additional role, observing and reporting industrial discharge practices that affect water quality. This kind of program walks a fine line between education about and enforcement of environmental laws. Yet it has fostered an atmosphere of mutual respect among environmentalists and industry. Most importantly, it has brought citizens into contact with those who literally hold the fate of clean water in their hands.

State of the Dungeness River Report

Sponsor

Jamestown S'Klallam Tribe

PIE Funding

$ 21,000

Additional Resources

$ 3,000 from the Jamestown S'Klallam Tribe, $ 2,000 from Key Bank's Washington Waters Fund for printing and $ 2,000 from EPA.

Target Audience

Residents and visitors in the Dungeness River watershed and neighboring watersheds.

Area Covered

Eastern Clallam County

Purpose

- To foster an appreciation of the Dungeness River and to enhance understanding of the relationships between land and water uses within the Dungeness River watershed.
- To increase public awareness of the role of the Jamestown S'Klallam Tribe in historical and present-day management of the Dungeness River.

Products

- 3,000 copies of *Every River Has Its People: The 1993 State of the Dungeness River Report.*
- 20-minute slide presentation.
- 1,000 photo-illustrated posters.

Project Coordinator

Ann Seiter
Jamestown S'Klallam Tribe
1033 Old Blyn Hwy.
Sequim, WA 98382

(206) 683-1001

Project Timeline

1991-1993

State of the Dungeness River Report, continued

Methods

- Involving tribal members and the education committee of the Dungeness River Watershed Management Committee in the preparation of the book, slide show and poster.
- Compiling recent research findings and planning studies and presenting them in a user-friendly format for non-technical audiences.
- Assembling photographs, maps, charts and original artwork to illustrate the three products.

Results

- A multi-media program on the state of the Dungeness River was created to explain basic ecological and economic relationships contained within the Dungeness River Ecosystem.

Notes

"Every River Has Its People" reflects the crossroads between communities and the environment in the Dungeness River Valley. By creating a greater vision of the watershed, the project successfully reflects the need to cooperatively managing the watershed's many valuable resources — especially where conflicting uses arise.

Stories from Eagle Harbor

Sponsor

Theatre in the Wild

PIE Funding

$ 5,700

Additional Resources

In-kind services of $ 750 from contract faculty.

Target Audience

Elementary school children, their parents and the community-at-large.

Area Covered

Bainbridge Island

Purpose

- To educate participating children about protecting local shorelines and the marine habitats of Eagle Harbor.
- To promote concern for the health of Eagle Harbor by producing and performing an original play, based on the ideas and stories of local children.

Products

Voices of Puget Sound: Using Theatre to Teach About Watershed Protection handbook.

Unexpected Challenge

Most children are involved in numerous after-school activities. Therefore, devising a rehearsal schedule for children from three different schools proved difficult.

A Life of its Own

One Bainbridge Island merchant's association wants to sponsor a performance of the play as part of the annual "Island Days" festivities.

Project Coordinator

Theresa May
Theatre in the Wild
9758 Arrowsmith Ave.
Seattle, WA 98118

(206) 722-7026

Project Timeline

1989-1991

Methods

- Selecting children to develop a story using creative dramatics, theater games, story telling and animal characterizations.
- Taking children on field trips to explore local uplands, tidal zones, development sites and the Suquamish Tribal Museum and to hear about the early settlers on Bainbridge Island.
- Writing and producing a play based on the children's ideas.
- Performing the play for the Bainbridge Island community in an outdoor waterfront location.

Results

- A group of 450 children, parents, volunteers and community members took part in the production and performance.
- A post-performance survey indicated an increased understanding of the interconnectedness of household hazardous wastes, the local watershed, land development, harbor industry and the quality of water and life in Eagle Harbor.
- The children assumed responsibility and leadership, while learning environmental science and dramatic arts.

Notes

This project focused on watersheds and our roles within them. Students reflected what they learned about their environment by creating and acting out stories. In doing this, children of Bainbridge Island began to see the interplay of places and living things — including people — that make where they live distinctive.

TRACKING THE DRAGON:
The Hydrologic Cycle in East Jefferson County

SPONSOR
Wild Olympic Salmon

PIE FUNDING
$ 35,000

TARGET AUDIENCE
Youth and families

AREA COVERED
East Jefferson County

PURPOSE
- To familiarize community members with the hydrologic cycle and the natural history and dynamics of local watersheds.
- To involve the public in a cooperative game that builds on their experiences of the watershed.

PRODUCTS
- Twelve bronze dragon tracks installed at sites around the region.
- *Tracking the Dragon* game packets.
- A bound game book that can be used as a watershed guide.

UNEXPECTED CHALLENGE
Two of the bronze dragon tracks were stolen.

A LIFE OF ITS OWN
Wild Olympic Salmon has received a grant from the Jefferson County Parks and Recreation Commission to replace the missing dragon tracks and install an interpretive kiosk on the dragon tracking game at Chimacum County Park.

PROJECT COORDINATOR
Mall Johani Peek
Wild Olympia Salmon
P.O. Box 585
Chimacum, WA
98325

(206) 732-4238

PROJECT TIMELINE
1989-1991

Tracking the Dragon, continued

Methods

- Involving the public in a cooperative game, tracing the hydrologic cycle and using east Jefferson County (which is shaped like a dragon) as the playing arena.
- Identifying 12 key water resource sites—to be discovered, one per month, for a year—and marking these sites with a permanently installed bronze dragon track.
- Forming three-person teams of artists, writers and sculptors to design the tracks and develop clues.
- Producing monthly game packets for players.

Results

- Over 500 people signed up to play the game and receive the monthly clues.
- Players would find the track and record their experiences as artwork, prose, poetry or song.
- At the conclusion of the game, players received a color cover and additional pages to be bound together into a book.

Notes

A watershed's resources are not limited to fish, wood, water or other "natural resources." They include the imagination and zeal of people. This project drew heavily from the imagination of eastern Jefferson County artists, poets and naturalists to create a game in which the region was the board and game participants, following clues, were the pieces. Twelve locations representing critical parts of the hydrologic cycle in the watershed were selected. Players assembled clues to find the places and experience their treasures. When all 12 sites have been discovered, the cycle of the game was complete – the watershed's mysteries were revealed.

Tracking the Thunderbird

Sponsor

Kitsap County Department of Community Development

PIE Funding

$ 37,200

Additional Resources

$ 11,700 from Kitsap County, Puget Power and materials fees from participants.

Target Audience

Kitsap County school children and parents.

Area Covered

Kitsap County

Purpose

- To acquaint people with the dynamics of the hydrologic cycle, geology, geography, natural history and watersheds of Kitsap County.
- To fuel local imaginations and encourage public involvement in protection, preservation and stewardship of water resources.

Products

- *Tracking the Thunderbird* game board and materials.
- Bronze thunderbird tracks installed at important hydrological sites around Kitsap County.

Unexpected Challenges

- There were more requests for presentations, especially from schools, than project staff could handle.
- At one point, participants had difficulty finding the tracks because they had been covered by snow.

Unexpected Outcomes

- Families appreciated the opportunity to interact with each other and are requesting more projects.
- Interest from outside the county was significant—residents of neighboring counties wanted to play.
- Teachers are using the game as part of their regular classroom activities.

Project Coordinator

Meg Sands
Kitsap County Dept. of Community Development, MS-36
614 Division St.
Port Orchard, WA 98366

(206) 876-7181

Project Timeline

1991-1993

Tracking the Thunderbird, continued

Methods

- Replicating *Tracking the Dragon: The Hydrologic Cycle in East Jefferson County* (see page 41).
- Engaging study and work teams to ensure technical accuracy, creativity and sound instructional methods.
- Designing and fabricating bronze thunderbird tracks and installing them at hydrologically significant sites.
- Developing and implementing a public information campaign to engage a wide range of participants and to acknowledge their participation in the tracking game.
- Surveying players before and after the game to gauge their water quality attitudes.

Results

- About 2,200 participants successfully completed the *Tracking the Thunderbird* game.
- Around 6,000 school children learned about water quality and the game at school assemblies.
- Many participants had very positive attitudes toward water quality protection before the game. Project leaders believe that the game strengthened those attitudes with new experiences.

Notes

This project recreated "Tracking the Dragon" in Kitsap County. By replicating what had worked well in one place, "Tracking the Thunderbird" refined the "wide-game" concept, using a new project sponsor and finding a new audience. A highly urbanizing area, Kitsap County presented many challenges. While original "Dragon" sponsors were a non-profit organization of environmental activists and artisans, "Thunderbird" was organized and conducted by a local government. In the process, the county found a new way to educate watershed citizens. The message and the method gave players and county government a new perspective on their unique watershed.

Tribal and Community Watershed Education

Sponsor

Nooksack Tribe
Fisheries Department

PIE Funding

$ 7,700

Additional Resources

In-kind contributions of staff time.

Target Audience

Members of the Nooksack Tribe, the public, schools, state and local government agencies and the Drayton Harbor Watershed Management Committee.

Area Covered

The Nooksack watershed, with Soundwide application.

Purpose

To share the Tribe's unique perspective on watershed management with its members and the community.

Products

- Curriculum on water quality issues and careers.
- *Clean Water is in Your Past...Will Clean Water Be in Your Future?* display and accompanying brochure.

Unexpected Challenge

Different learning styles and cultural backgrounds (oral versus written traditions) were obstacles for the culturally diverse project team's implementation of the project.

A Life of its Own

The Nooksack Tribe is now recognized as an educational resource for the area and its participation is being sought for K-12, college and international educational projects.

Project Coordinator

Douglas Dobyns
Nooksack Tribe
Fisheries Department
P.O. Box 157
Deming, WA 98244

(206) 592-5176

Project Timeline

1990-1991

Tribal & Community Watershed Education, continued

Methods

- Developing a curriculum on aspects of watershed protection associated with Tribal culture and treaty rights.
- Designing and building a four-panel display and accompanying brochure that presents historical information on the Nooksack River in the late 1800s and information on salmon, the concept of watershed and careers in fisheries management.
- Presenting a watershed education class for the community including information about careers in water quality and resource management.

Results

- A junior high school curriculum on the life-cycle of the salmon and its importance to the Tribe has been developed and presented to the Tribal Education Department.
- The display has traveled to local schools and libraries, where it has been viewed by over 15,000 people.
- Representatives from the Nooksack Planning, Mental Health, Fisheries and Education departments, the Lummi Fisheries Department, the Whatcom County Planning Department and the Washington State University Cooperative Extension of Whatcom County attended a watershed education class presented by the Tribe.
- Issue papers on flooding and watershed management were presented to the Tribal Council.

Notes

The role of Native Americans in watershed protection has evolved dramatically in the last decade. While Indian perspectives have traditionally been holistic in nature, tribes themselves were for many years excluded from active resource management. Cooperative management, guided by court decisions and more inclusive public policies has brought the Nooksack and other tribes back into the watershed picture. In this project, Nooksack Tribe members shared their view of the fish, wildlife and water of their watershed with the community with whose future they are now entwined.

PREVENTING NONPOINT POLLUTION

During the 1960s and 70s, when somebody mentioned water pollution we always thought of industrial waste and large sewage treatment plants as the major culprits. As people looked at our waterways and cried foul, laws were enacted to eliminate many pollutants – usually at the end of the pipe where they flowed into our rivers and bays. Now, decades later, we can all be proud of the fact that industrial processes and sewage treatment facilities have improved. As a result, pollution from most industrial and sewage treatment discharges has decreased in one way or another.

But other sources of pollution have come to light. And many of them are caused by ordinary people, doing ordinary things that we all take for granted. Like fertilizing our yards. Washing our cars. Clearing our drainpipes. Using our septic systems. And so on.

Nonpoint pollution (named that because it originates at no single identifiable point) represents the greatest challenge to protecting Puget Sound because it involves all of us – and our numbers are growing. The challenge lies in the fact that regulations can only go so far. What is needed is a change of behavior – and to do that we all need to change bad habits (like neglecting our septic tanks) into good habits (like cleaning and repairing our septic tanks when necessary).

PIE Fund projects in the following section represent some ways of learning those habits. They reflect techniques for developing skills that we can apply as individuals – at home, on the job and in our communities. Most of all, they reinforce a very positive message – we can make a difference as individuals. Just as the cumulative effect of each of our actions leads to nonpoint pollution problems, the sum of our individual actions will decrease the growing amount of nonpoint source pollution flowing into Puget Sound.

Key Audiences for Nonpoint Projects

AGRICULTURE
Including commercial and part-time farmers

HOMEOWNERS
Including landlords, tenants and landowners

BUSINESSES
Including construction, automotive, landscaping, marine-related and plumbing companies

GOVERNMENT
City and county government agencies; elected officials

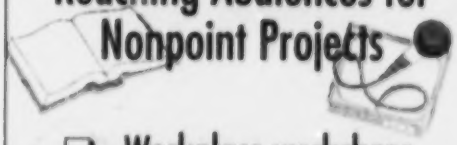
SCHOOLS
Elementary, secondary and post-secondary teachers and students; youth organizations

PUBLIC
Including families and community groups

RECREATIONAL BOATERS
Including youth and adult boating organizations

Look for these symbols in each of the PIE project descriptions to find out which audiences the project coordinators targeted.

Key Strategies for Reaching Audiences for Nonpoint Projects



- ❑ Workplace workshops
- ❑ Kitchen talks
- ❑ Site Tours
- ❑ Publications
- ❑ Informational meetings

Business Partners for Clean Water

Sponsor

City of Bellevue Storm and Surface Water Utility

PIE Funding

$ 17,500

Additional Resources

$ 13,000 from the state's Centennial Clean Water Fund to initiate the Business Partners program.

Target Audience

Owners and employees of construction, automotive, building maintenance, landscaping and food-related businesses.

Area Covered

City of Bellevue

Purpose

- To educate five targeted business groups about reducing sources of water pollution and to encourage cooperative efforts to protect water quality.
- To increase public recognition of the Business Partners program and raise consumers' understanding of how their decisions and actions affect water quality.
- To provide other jurisdictions with information on establishing a business partnership program.

Products

- 400 copies of *How To Involve Businesses in Water Quality Protection* guide.
- 1,000 manuals that target automotive, construction, landscaping, food-related and building maintenance businesses.

Unexpected Challenge

Because of the unique nature of individual businesses, follow-up training at job sites and workplaces proved to be more staff- and time-intensive than originally planned. However, the pay-off of strengthened commitments to water quality protection from individual businesses made this extra effort worthwhile.

Project Coordinator

Nancy Hansen
City of Bellevue
Storm and Surface Water Utility
P.O. Box 90012
Bellevue, WA 98009

(206) 451-4476

Project Timeline

1991-1993

Business Partners for Clean Water, continued

Methods

- Offering workshops on water quality protection and best management practices to the targeted businesses.
- Reprinting the program's instructional manual for each targeted business.
- Educating the public about their role as consumers through written materials, local news media and presentations at local events.
- Preparing a "how-to" publication for other jurisdictions, documenting program development and implementation, project results and lessons learned.

Results

- One hundred and fifty businesses participated in workshops and 35 became Business Partners.
- Businesses have responded positively; some have educated their employees, others have instituted new measures to protect water quality.
- Publicity about the program continues to generate interest from businesses.

Notes

Traditionally, the authority of local governments over water quality has been regulatory. The city of Bellevue, however, chose another route. Selecting five business types where significant nonpoint pollution problems have the potential to occur, Bellevue developed a cooperative education program. In the process, the city shared its technical resources and recruited the help of businesses interested in doing their part to prevent nonpoint pollution.

CANAL CLEANERS

SPONSOR

Office of Water Quality, Mason County Department of Health Services

PIE FUNDING

$ 30,000

ADDITIONAL RESOURCES

$ 4,439 from Mason County.

TARGET AUDIENCE

Residents along Finch Creek.

AREA COVERED

Hoodsport

PURPOSE

To teach homeowners to recognize septic pollution problems and how to repair them.

PRODUCTS

Worshop package, including invitations, fact sheets and other materials.

PROJECT COORDINATOR

Wayne Clifford
Mason County Dept. of Health Services
P.O. Box 186
Shelton, WA 98584

(206) 427-9670

PROJECT TIMELINE

1991-1993

Methods

- Developing a house-to-house traveling water quality education workshop for shoreline and upland homeowners in the Hoodsport area of Hood Canal.
- Holding "kitchen table" workshops for small groups of neighbors.
- Teaching residents in "problem" neighborhoods to use dye tests to find and prove septic system problems to themselves.

Results

- Because of this project's emphasis on self-education, the community has recognized that it has a serious water quality problem and is developing alternatives for solving the problem on a community-wide basis.
- This program model has been adopted in three other communities with similar failing septic system problems.

Notes

No one likes to acknowledge they contribute to a water quality problem, particularly if they might be evicted or fined as a result. In this project, Mason County chose to educate Hoodsport residents about leaking septics before using enforcement. Once the severity of the problem was known, the county helped the citizens organize meetings and bring in outside technical assistance to solve the problems. What could have been "intervention" was transformed into "involvement."

Committee for Liberty Bay

Sponsor

Poulsbo Chamber of Commerce

PIE Funding

$ 18,500

Additional Resources

Volunteer and in-kind services.

Target Audience

Businesses and fourth grade students in Poulsbo and north Kitsap County.

Area Covered

North Kitsap County

Purpose

- To improve water quality in Liberty Bay and prevent future pollution.
- To increase the awareness among chamber members, businesses and students about effects of pollution on the Liberty Bay-Dogfish Creek watershed.
- To demonstrate ways that businesses and families can control pollution within Liberty Bay.
- To replicate the city of Bellevue's PIE-funded Business Partners for Clean Water project (see page 49).

Products

- Business resource books.
- Fourth grade curriculum in the form of a watershed game.
- T-shirts.
- *Business For Liberty Bay* stickers for participating businesses.

Unexpected Challenge

It was necessary to significantly modify Bellevue's "Business Partners" materials to suit the region's more rural audiences.

A Life of its Own

The school district has requested that chamber members continue their involvement with the school district.

Project Coordinators

Kent Soule *and*
Kathy Cocus
Poulsbo Chamber of Commerce
P.O. Box 1063
Poulsbo, WA 98370

(206) 779-4999

Project Timeline

1992-1993

Committee for Liberty Bay, continued

Methods

- Providing information on stormwater runoff and nonpoint sources of pollution in the workplace.
- Recruiting and training speakers from the business community.
- Holding business-hosted "block meetings" to carry out peer education activities.
- Having business volunteers work with the school district to develop and present a fourth grade curriculum about ways to control nonpoint source pollution around the home.

Results

- Customized resource books were crafted for landscaping, auto repair, food-related, construction-related and other businesses.
- Watershed games were developed to teach fourth grade classes. Take-home packets for the students included "recipes" for less toxic cleaners, sites for recycling, a home assessment form and a "share card" for each family, stating what changes members would make in their home life to protect Liberty Bay.
- Students that brought back their share cards received a T-shirt with the message "Student for Liberty Bay."

Notes

Many small-town businesses in the Puget Sound region recognize the importance of a high quality environment — particularly in towns where visitors form the backbone of the economy. Poulsbo's Chamber of Commerce represents such a community. Maintaining a strong business base in Poulsbo requires a commitment to the environment as a community resource. The chamber conducted workshops to help businesses improve their environmental performance, and then teamed up with the schools to promote sound actions as everyone's civic responsibility.

Education Program on the Use of Portable Pumpout Facilities

Sponsor

Northwest Yacht Brokers Association

PIE Funding

$ 15,700

Additional Resources

$ 45,000 from the Environmental Protection Agency through the Puget Sound Water Quality Authority.

$ 15,000 for construction, installation and other project-related expenses.

Target Audience

Recreational boaters, marina owners and operators and law enforcement and regulatory personnel.

Area Covered

Soundwide (with national application)

Purpose

- To educate boaters about and demonstrate the feasibility of portable pumpout stations.
- To provide more convenient and practical alternatives for boaters to properly dispose of their waste.

Products

- Eight portable HoneyWagons.
- *Don't Flush Here* brochure.

Audience Response

"You...have presented the boaters a genuine, workable solution. The 30 minutes required to fetch the HoneyWagon, pump out the holding tank, return and pump... and rinse the HoneyWagon is such a small commitment every two weeks it is unimaginable why one would not use this innovative devise."

— Alline and Joe DaPron, Puget Sound boaters

Project Coordinator

Jeffrey Briggs
c/o Northwest Yacht Brokers Association
2442 NW Market #321
Seattle, WA 98107

(206) 298-7895

Project Timeline

1990-1991

Education on the Use of Portable Pumpout Facilities, continued

Methods

- Field-testing HoneyWagons (portable pumpout systems for boats) at Ballard Mill, Fremont Boat Company, West Bay, Eagle Harbor, Pleasant Harbor, Liberty Bay and Cap Sante marinas and at the Port of Friday Harbor.
- Presenting educational programs on portable pumpouts as alternatives to improper waste disposal.
- Researching, writing and producing a brochure on the issue of boat waste disposal.

Results

- Presentations were made to 10 Puget Sound boaters groups.
- During the 1991 boating season—June through August—HoneyWagons were used 1,111 times (compared to 153 uses of stationary pumpout facilities). A total of 22,220 gallons of waste were pumped into HoneyWagons—more than seven times the amount pumped into stationary facilities.

Notes

New technologies take root slowly, particularly in areas like boating, where traditions and skills go back centuries. In this program, boaters were taught to use recently developed portable pumpout stations to empty their boats' toilet holding tanks. The "HoneyWagons," which are more convenient and considerably less expensive than fixed pumpout stations proved their feasibility. Boaters taught how to use them showed that new practices can be adopted if enough emphasis is given to the "how" and "why."

HAZARD FREE DAYS IN KIRKLAND

SPONSOR

Metrocenter YMCA

PIE FUNDING

$ 30,000

TARGET AUDIENCE

Businesses and residents of Kirkland.

AREA COVERED

Kirkland

PURPOSE

- To decrease dependence on hazardous household materials and reduce the amount of hazardous material that reaches Puget Sound from individual homes and businesses.
- To provide technical resources that improve the relationships between small-quantity waste generators and public regulatory agencies.
- To develop a constituency for water quality among businesses, youth and families in the community.

PRODUCTS

- *Hazardous Materials Project News* newsletter.
- *Hazardous Waste in My Home or Office?* brochure.
- Pledge cards.

UNANTICIPATED RESULT

Businesses showed unexpected support for the program by assisting in the public education components of the project, as well as participating in the pledge drive.

PROJECT COORDINATOR

Richard Conlin
Metrocenter YMCA
909 Fourth Ave.
Seattle, WA 98104

(206) 382-5013

PROJECT TIMELINE

1989-1991

Hazard Free Days in Kirkland, continued

Methods

- Conducting six household hazardous waste collection days in Kirkland.
- Developing a public awareness campaign on household hazardous waste and securing pledges from individuals and businesses to reduce the use of hazardous waste.
- Developing action programs for youth.

Results

- Approximately 30 tons of hazardous waste were collected and disposed of properly, preventing accidental or intentional disposal that could have affected Puget Sound. Over 1,700 people participated in the waste drop-off events.
- 1,400 individuals signed pledges to change buying and disposal practices that involve household hazardous waste. Forty-two businesses also signed pledges.
- Through program publicity and a series of columns appearing in the *Bellevue Journal American*, over 45,000 people heard about the program or received information to help reduce their use and improper disposal of household hazardous waste.
- Significant portions of the program have carried on beyond PIE funding.

Notes

Mobilizing an entire community on important environmental issues requires defining the problem and developing solutions for many types of audiences — all at once. Families, businesses and youth were all targeted, but the real orchestration involved media, regulatory agencies and other community organizations. During this project's life, Kirkland residents may have felt bombarded with household hazardous waste messages. In fact, they were. Because of superb timing and coordination, the messages all reinforced each other, exceeding the project's objectives and leaving a legacy of success in the community.

Household Information Kit

Sponsors

7th Avenue Creative & Marketing and George Brazil Company Plumbers

PIE Funding

$ 26,675

Additional Resources

$ 12,000 for distribution of materials.

$ 7,200 from individual vendors.

Target Audience

Plumbing professionals and their customers.

Area Covered

Pierce, Snohomish, King and Whatcom counties.

Purpose

To train plumbers to help homeowners choose products and practices that do not pollute local waters.

Products

- Posters.
- *Don't Let Your Future Go Down the Drain, Protect Your Liquid Assets* brochure.
- Drain covers.
- Refrigerator magnets.

Project Coordinator

Janine Terrano
7th Avenue Creative & Marketing
1809 7th Avenue
Suite 1501
Seattle, WA 98101

(206) 382-0503

Project Timeline

1992-1993

Household Information Kit, continued

Methods

- Identifying water quality issues that pertain specifically to home and business owners and renters.
- Designing and producing educational materials to deliver the message about water quality to these groups.
- Packaging and distributing these materials through service technicians of George Brazil.
- Conducting training sessions for George Brazil Northwest Region operators.

Results

- 12,000 kits were distributed—each containing a poster on proper disposal of household hazardous waste, a drain cover with the slogan "Always read the label," a refrigerator magnet with a telephone number for household hazardous waste information, and a brochure about the need to read labels of household products.

Notes

Is your plumber a "plumber" or a "water quality service technician?" Plumbers of the George Brazil Organization are the latter, and as such see their roles as helping customers make the right choices about what goes down the drain. In this project, plumbers distributed water quality information to their customers. The program included information on proper and improper use of potentially hazardous drain cleansers.

NORTHWEST DAIRY SHORTCOURSE

SPONSOR

Washington State University Cooperative Extension – Whatcom County

PIE FUNDING

$ 4,157

TARGET AUDIENCE

Dairy farmers, agribusiness, agency representatives, conservation district employees, media and University faculty, staff and students.

AREA COVERED

Soundwide

PURPOSE

To reduce the negative water quality effects of dairy industry manure and improve manure management practices.

PRODUCTS

Published proceedings from the shortcourse

UNEXPECTED OUTCOMES

Participants appreciated the emphasis on education rather than regulation, although the fact that an estimated 20 percent of farmers are not in compliance demonstrates that education efforts are incomplete.

PROJECT COORDINATOR

David Grusenmeyer
WSU Cooperative Extension – Whatcom County
1000 N. Forest
Bellingham, WA 98225
(206) 676-6736

PROJECT TIMELINE

1991-1993

Northwest Dairy Shortcourse, continued

Methods

- Recruiting national experts to educate participants of the Northwest Dairy Shortcourse about proper manure management practices, the economics and importance of nutrient management, the impact and costs of nonpoint source pollution, and the development of the state Department of Ecology's dairy waste discharge permit program.

Results

- Two hundred and twelve people attended the Northwest Dairy Shortcourse.
- Based on a follow-up survey of farmers who attended the shortcourse, 17 dairy producers adopted new manure management practices based on what they learned.

Notes

This program used an existing educational event — the Northwest Dairy Shortcourse — to train a select group of dairy farmers on proper manure management. Follow-up surveys showed that the program was effective. Over one-third adopted new practices as a result of the course. The lesson here for educators is to use educational techniques familiar to a specific audience and follow up with participants to determine how they view the usefulness of the new knowledge.

Painting Contractor Education Project

Sponsor

Urban Wildlife Coalition

PIE Funding

$ 6,600

Target Audience

Painting contractors and their employees.

Area Covered

Soundwide

Purpose

To inform painting contractors and their employees about proper disposal, recycling and waste reduction of paint and paint-related products.

Products

- Poster.
- *Paint: Waste Reduction, Recycling and Disposal Information* brochure.

Project Coordinator

Charles Anderson
Urban Wildlife Coalition
137½ Park Lane
Kirkland, WA 98033
(206) 622-5260

Project Timeline

1990-1991

Painting Contractor Education, continued

Methods

- Designing a poster and brochure on water quality, paint products and the proper use and disposal of paints, thinners and other materials.
- Involving industry representatives in design review.
- Providing a telephone information line for sharing information about sound practices for painters.
- Distributing printed information through the mail and over-the-counter at Parker Paint, Rodda, Fuller O'Brien and other local paint suppliers.

Results

- Over 1,000 brochures were mailed to painting contractors and over 100 paint stores have displayed informational materials.

Notes

How do you dispose of unused paints when it's washup time? In this project, the Urban Wildlife Coalition developed informational products to help painting contractors understand nonpoint pollution impacts from their trade. By working cooperatively with the industry, the materials proved useful to the audience and were distributed over the counter by paint suppliers.

Radio Public Service Announcements

Sponsor

Environmental Perspectives

PIE Funding

$ 5,100

Additional Resources

In-kind donations of $ 340.

Target Audience

Radio audiences

Area Covered

Soundwide

Purpose

To educate radio audiences on a range of issues related to water quality protection.

Products

Twelve 30-second public service announcements (PSAs) on protecting water quality in the Puget Sound region.

Unexpected Challenges

- An unrealistic time line and an overly ambitious production schedule led to a variety of problems, including variable sound quality and inconsistent PSA lengths. These problems were corrected by reducing the number of PSAs and using reel-to-reel tape instead of cassettes. In addition, some stations required a readable script in place of the recorded versions of the PSAs; these were provided.
- Only one in four radio stations provided information on PSA air times and audience size. Personal contact with each station's public service director would have increased the number of airings and possibly given a more accurate response than the questionnaire.

Project Coordinator

Valerie Fisher
Environmental Perspectives
2800 Haxton Way
Bellingham, WA 98226

(206) 650-4907

Project Timeline

1989-1991

Radio Public Service Announcements, continued

Methods

- Creating public service announcements (PSAs) with information and suggested actions relating to garden chemicals, household hazardous waste, protection of wetlands and fish habitat, surface water runoff and marine debris.
- Distributing taped PSAs to 50 radio stations in Washington.
- Soliciting airing and audience information from the radio stations through a questionnaire.

Results

- An estimated audience of 500,000 people heard the public service announcements based on radio station listening audience information.

Notes

Appropriate environmental actions can be reinforced through a variety of media. In this project, public service announcements were produced to air on 50 Puget Sound radio stations. Although public service announcements are somewhat limited in their scope or depth of information, they can be effective reminders for large audiences.

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Sea Explorer Scout Training

Sponsor

Wooden Boat Foundation

PIE Funding

$ 20,000

Additional Resources

In-kind staff contributions of $ 21,732, plus $ 2,000 from participant fees.

Target Audience

Boy Scouts of America Sea Explorer groups

Area Covered

Soundwide

Purpose

To provide hands-on marine education for regional Sea Explorer Scouts, giving them skills and experiences to strengthen their commitment to the protection of Puget Sound.

Products

Logbooks and port surveys.

A Life of its Own

The program may become the basis for an ongoing environmental merit badge for Sea Explorer Scouts (incorporating the curricula developed by Pacific Western Services (page 3), another PIE project team).

Helpful Hint

In planning any marine program, always have a backup plan with indoor activities in the event of foul weather.

Project Coordinator

Leslie Lincoln
Wooden Boat Foundation
Cupola House, #2
Point Hudson
Pt. Townsend, WA
98368

(206) 385-5582

Project Timeline

1991-1993

Sea Explorer Scout Training, continued

Methods

- Instructing Scouts in water quality awareness through workshops aboard the Foundation's yawl and at the Port Townsend Marine Science Center.
- Designing a workshop logbook for each participant, containing a model and techniques for conducting a port survey.
- Providing an opportunity for the participants to work closely with a trained marine biologist to collect viable scientific data for the Port Townsend Marine Science Center's water quality monitoring efforts.

Results

- One hundred and sixty-five Scouts took part in 12 training programs, which included rowing to two sites for sediment sampling and tests for salinity, turbidity and other parameters.
- Five groups completed a comparable survey at their home ports.

Notes

Outdoor experiences are good opportunities for learning new skills. By coupling Sea Explorer Scout activities with water quality education, young boaters gained experience in environmentally correct boat maintenance and learned water quality monitoring and survey techniques. The combination will help them become competent lifelong recreational boaters whose mastery of boating includes knowledge and habits of pollution prevention.

Septic Pumpers Education Program

Sponsor

Thurston County Environmental Health Department

PIE Funding

$ 11,757

Target Audience

Septic tank pumpers and repairers.

Area Covered

Thurston County

Purpose

- To implement the three county watershed plans which identify malfunctioning septic systems as a source of pollution.
- To raise awareness of septic system pumpers and septic system owners about the relationship between proper maintenance and repair of septic systems and protection of water quality.
- To implement the 1991 Puget Sound Water Quality Management Plan, which calls for education and certification of professional installers and maintainers of on-site septic systems.

Products

- *Professional On-Site Sewage System Maintenance*, a video to teach proper assessment, pumping and repairs of septic systems.
- An educational packet for prospective pumpers to study and a certification examination to qualify the applicant for a pumper's license.

A Life of its Own

The project team has served as subcontractors, assisting the team of a subsequent PIE-funded project modeled after this one.

Project Coordinator

Debra Baker
Thurston County Environmental Health Department
2000 Lakeridge Dr. SW
Olympia, WA 98502

(206) 786-5455

Project Timeline

1991-1993

Septic Pumpers Education Program, continued

Methods

- Assembling an advisory committee of licensed pumpers and installers, as well as other technical experts, to assist with the education of pumpers and to foster a cooperative relationship between the Thurston County Environmental Health Department and the business community.
- Teaching a certification course for all currently licensed pumpers on the proper methods for pumping, repairing and assessing septic systems and the relationship between best management practices and the protection of water quality.

Results

- Fifty-four septic system pumpers took the course.
- A spirit of cooperation arose between the Environmental Health Department and the individual pumpers in the business community.
- Examination scores from pumpers who took the course showed that some information should be reinforced with additional technical assistance from department staff.

Notes

In today's business climate many companies strive to add greater value to their services to attract increasingly aware customers. In Thurston County, septic pumpers and repairers are going beyond their traditional roles of "dirty work" specialists. In this project, the county helped them become water quality educators to their customers. Together with a pumper certification program, this project has raised the level of expertise among pumpers and repairers to teach homeowners to become better stewards of their septic systems.

Sound Farmers

Sponsor

Joy Garitone

PIE Funding

$ 22,000

Additional Resources

$ 8,800 in donations of time, materials and demonstration sites.

Target Audience

Small farm owners in the Burley Minter and Ollalla watersheds.

Area Covered

Kitsap County

Purpose

To help owners of small farms recognize agricultural waste problems and identify possible solutions.

Products

Seminar workbooks of appropriate reprints.

A Life of its Own

Additional Sound Farmers chapters have been formed in other counties. The project will produce the *County's Marketing Guide*, which lists farm products for sale.

Audience Response

"The benefits of this program have been two-fold. First, there's never enough available information as far as farming is concerned, especially about subjects like pasture management or waste handling and storage. Second, farming is a fairly isolated activity, so it's always reassuring to get involved with a group that has similar interests to your own."

— *Marcia Adams, Sound Farmer*

Project Coordinator

Joy Garitone
Sound Farmers
8134 Orchard Ave. SE
Pt. Orchard, WA 98366

(206) 857-6096

Project Timeline

1992-1993

Sound Farmers, continued

Methods

- Training landowners in "user friendly" methods for managing agricultural waste.
- Conducting a public seminar on small farm management featuring experts on water quality and livestock.
- Establishing and maintaining a demonstration site, planted with cover crops for green manure, herbicide reduction and water filtration.
- Providing further training for interested farmers and establishing a peer group for continued education and support.

Results

- 100 farmers attended the Sound Farmers seminar, which covered topics such as farm plans, best management practices, cost-sharing, wells, water and animal care.
- During the two field days, 80 people analyzed their own farm soils, toured a demonstration farm, analyzed grasses and weed control, and planted and evaluated cover crops.
- The first chapter of Sound Farmers was established to train farmers to help their neighbors prevent waste from running off their lands.

Notes

Identifying and reaching "small farmers" is a problem for government agencies. Having a small, noncommercial farm is something that many types of people do, usually not for the money. In this project, a group of concerned rural citizens, all of whom have small noncommercial farms, banded together to teach each other about nonpoint pollution. The result was trust, ideas that work for their area and an ongoing commitment to their water and each other to be part of the solution.

84

SoundWatch:
An Environmental Guide for Boaters

Sponsor

48 Degrees North: The Sailing Magazine

PIE Funding

$ 25,500

Additional Resources

$ 42,000 from Key Bank and the state departments of Natural Resources and Ecology.

Target Audience

Recreational boaters

Area Covered

Soundwide

Purpose

To inform recreational boaters about environmental issues and concerns and to offer practical advice and action steps to lessen the effects of boating on water quality.

Products

SoundWatch, a 64-page illustrated guide in a magazine format, with separate chapters on sewage disposal, handling on-board solid waste, bilge spills and other relevant topics. Major issues are described in simple terms, using active text and appealing illustrations, plus a wide range of humorous anecdotes and inspirational quotes. The guide also contains 12 charts identifying area shellfish beds, parks, pumpout facilities, marinas and moorages.

Unexpected Challenge

Advice for boaters on hazardous waste recycling was difficult to obtain, as state agencies currently offer no plans for recycling centers at marinas. Ultimately, the chapter on hazardous waste recycling was eliminated from the book's outline.

Audience Response

"We have been aware of most of our responsibilities, but *SoundWatch* has given us some easy solutions. I can once again varnish without looking over my shoulder."

—Annie Stephens, a boater on Puget Sound

Project Coordinator

Jeffrey Briggs
48 Degrees North
6327 Seaview Ave. NW
Seattle, WA 98107

(206) 789-7350

Project Timeline

1992-1993

SoundWatch, continued

Methods

- Researching, writing, publishing and distributing a special supplement to *48 Degrees North*.

Results

- 75,000 complimentary copies of the guide have been distributed to magazine subscribers, at marinas, marine supply stores, and yacht clubs, and through the Seattle Boat Show, the U.S. Coast Guard and other marine-related sources.
- Of 322 respondents to a reader survey, 314 said they have kept their copy of the guide for future reference and 284 recommended SoundWatch to boating friends.
- Asked if SoundWatch helped them take specific actions to reduce pollution, 322 readers gave the publication a mean score of 4.36 on a scale of 1-5 (5 being "very help ful" and 1 being "not very helpful").

Notes

When the proposal for this project was being reviewed, one reviewer noted that she had never been on a boat that didn't have a copy of 48 Degrees North on board. The popular Northwest boating magazine seemed like a natural for reaching boaters effectively with water quality information. By developing a special issue, the magazine did reach its intended audience. In four months, over 70,000 copies were distributed to Puget Sound boaters. Many of the readers, who consider themselves knowledgeable about the environment, reported amazement upon learning new ways to protect the environment they so passionately enjoy as boaters.

Suquamish Tribe School of Real Estate

Sponsor

Suquamish Tribe

PIE Funding

$ 9,800

Target Audience

Members of the real estate and development communities, as well as sportsmen, environmentalists and concerned citizens.

Area Covered

Kitsap County

Purpose

- To educate members of the real estate and development community on water quality protection.
- To build on the successes of the Citizen Action Training School, a previous PIE project (as described in *Public Involvement and Education Model Products Fund: 47 Success Stories from Puget Sound*).

Products

- Eight four-hour classes.
- Service projects, including stream fencing, plant restoration and salmon rearing.

Unexpected Challenge

The length and number of the classes may have discouraged potential participants. Shorter classes offering fewer continuing-education credits could cater to realtors and developers who want more in-depth information on shorelines, wetlands and other specialized issues. In addition, most professionals preferred to meet in the mornings, a time that is not necessarily conducive to participation by non-professionals.

Project Coordinator

Phyllis Meyers
Suquamish Tribe
P.O. Box 498
Suquamish, WA 98393

(206) 598-3311

Project Timeline

1989-1991

Suquamish Tribe School of Real Estate Education, continued

Methods

- Conducting eight four-hour sessions covering watershed dynamics, the public trust doctrine, wetlands identification, the Clean Water Act, forest practices, activities of the Nature Conservancy and the Kitsap Land Trust, the State Environmental Policy Act (SEPA) and the National Environmental Policy Act (NEPA), tribal treaty rights, and shorelines regulations from the state departments of Ecology, Fisheries, Wildlife and Community Development.
- Overseeing each participant's 10-hour personal service project related to water quality.
- Giving 45 credit hours to each realtor, fulfilling their state-mandated requirement for continuing education.

Results

- Nineteen students took the course, receiving information and credit needed for professional development.
- Personal service projects included stream cleanups and restorations, fisheries enhancement, fence installation to keep livestock from a creek and review of an environmental impact statement of a proposed landfill.

Notes

The home and the homeowner share a crucial relationship in preventing nonpoint pollution. In this project, the Suquamish Tribe teamed up with a real estate organization to offer continuing education credits to agents taking a course in water quality and nonpoint pollution. This helps agents inform home buyers about problems and solutions associated with their new purchases.

Understanding Alternative On-Site Sewage Treatment Systems

Sponsors

Snohomish Health District and Thurston County Environmental Health Department.

PIE Funding

$ 30,000

Target Audience

Homeowners with alternative on-site sewage treatment systems.

Area Covered

Thurston and Snohomish counties.

Purpose

- To reduce water quality degradation from failing on-site septic systems.
- To emphasize the relationships among alternative on-site systems, water quality and public health.
- To teach homeowners about the functions, operations and maintenance of alternative on-site sewage disposal systems.

Products

- Four videos:
  - —*On-Site Sewage Disposal Systems: Pressure Distribution, Mound and Sand Filter*
  - —*On-Site Sewage Disposal Systems: Pressure Distribution*
  - —*On-Site Sewage Disposal Systems: Sand Filter*
  - —*On-Site Sewage Disposal Systems: Mound*
- *Alternative On-Site Sewage Systems: A Video Guide Companion* guidebook.
- A portable display with models and demonstration devices.

Project Coordinators

Randal Darst
Snohomish Health District
3020 Rucker Ave.
Everett, WA 98201

(206) 339-5270

and

Art Starry
Thurston County Environmental Health Department
2000 Lakeridge Dr. SW
Olympia, WA 98502

(206) 785-5455

Project Timeline

1992-1993

Understanding Alternative On-Site Systems, continued

Methods

- Collaborating to conduct a public presentation and demonstration program designed to address the concerns of residents in Thurston and Snohomish counties.
- Producing a series of videos for distribution to homeowners with alternative on-site sewage disposal systems.

Results

- Demonstration devices were developed and used at meetings and home shows to illustrate various types of on-site sewage disposal systems.
- The collaboration between these two local agencies has sparked the interest of the association that represents environmental health professionals.

Notes

"Alternative" septic systems involve mounds, pressure systems and sand filters — all sophisticated methods of treating household sewage. Unfortunately, these systems need to be carefully operated if they are to succeed — a task within the grasp of most homeowners if they understand the systems and take precautions over the system's life. Two jurisdictions teamed up for this project to provide training to prospective homeowners considering such systems and new owners who found they had inherited one.

PREVENTING STORMWATER POLLUTION

"Rain." Ask people to describe Puget Sound weather and they usually come up with that one word. Mark Twain reportedly once said that the Puget Sound region had two seasons – the rainy season and the Fourth of July. The problem is that it rains on the Fourth too.

Rain complicates more than our holidays. When a good squall hits the Puget Sound basin, the watershed has to absorb a lot of water. Where forests and fields cover the ground, most is absorbed. But where rain lands on roofs, parking lots, highways and other hardened surfaces, it has to go somewhere else. It starts as a thin sheet, gathers into small torrents, flows down the gutter or ditch, surges into pipes and culverts, pours into natural streams, fills available lowland and eventually joins Puget Sound, thick with mud.

Stormwater is not just rainwater turned loose. As it flows toward Puget Sound, it picks up soil, airborne dust, oil, litter, paint chips, pesticides, fertilizer and whatever else we've left on the pavement or in the creek that can be carried by or dissolved in water. Like other forms of nonpoint pollution, stormwater pollution is caused by all of us. Some of it can be treated. Most of it must simply be prevented.

The following PIE Fund projects focus on individual and group actions that can prevent stormwater pollution from harming Puget Sound. They include simple measures, like keeping your engine clean, so that dripping oil doesn't go down the street to the nearest storm drain and into the Sound. Or telling people exactly where stormwater goes (not that many people really know). Others are a mix of prevention and treatment – actions like recycling antifreeze and maintaining oil/water separators at an automotive shop. And some involve keeping your worksite tidy – whether you recycle scrap metal, repair fishing vessels or construct apartment buildings.

Key Audiences for Stormwater Projects

PUBLIC
Including community groups and families

HOMEOWNERS
Including landlords and tenants

BUSINESSES
Drycleaners, auto repair shops, boatyards, recyclers and any business with paved surfaces

GOVERNMENT
City and county government agencies

SCHOOLS
Teachers and students

DEVELOPERS
Including real estate agents and builders

RECREATIONAL BOATERS

Look for these symbols in each of the PIE project descriptions to find out which audiences the project coordinators targeted.

Key Strategies for Reaching Audiences for Stormwater Projects

- ❑ Workshops
- ❑ Best management practices workbooks

- ❑ Newsletters
- ❑ Videos
- ❑ Field Trips

Best Management Practices for Shipyards

Sponsor

Puget Sound Shipbuilders Association

PIE Funding

$ 26,000

Target Audience

Managers and operators of shipyards.

Area covered

Soundwide

Purpose

To provide technical training on methods and practices to reduce discharges of pollutants from shipyards.

Products

Best Management Practices for Ship and Boat Building and Repair Yards manual.

Unexpected Challenge

Shipbuilding is a highly competitive business. Some shipyard managers thought this project was merely a ruse for viewing their operations. Others were skeptical of the program's educational and informational intent. They needed assurance that participation would benefit program participants and water quality.

A Life of its Own

The American Waterways Association incorporated some of the project team's resources in its efforts to address environmental issues facing the maritime industry.

The Association encouraged other shipyards to participate in the workshop, and one yard later hired the project team to repeat the training for its employees.

Project Coordinator

Robert McMahon
Puget Sound Shipbuilders Association
230[illegible] West Commodore Way
Seattle, WA 98199

(206) 285-3200

Project Timeline

1989-1991

Best Management Practices for Shipyards, continued

Methods

- Developing a curriculum on best management practices for shipyards.
- Conducting workshops to train shipyard employees.
- Paying confidential visits to individual shipyards to assess the practices presently employed and to advise managers and operators on policies and practices.
- Mailing the best management practices manual to all shipyards in Puget Sound.

Results

- Twenty-four shipyards and boatyards participated directly through workshops or site visits.
- Several facilities are implementing best management practices based on the manual.
- Since completion of the workshops and site visits, several facilities have sought additional advice from the project team.

Notes

Issues of regulation and compliance involve high stakes for businesses. Disclosure of technical information on cost-effective means of complying and the threat of fines for non-compliance are financial issues that can be barriers to the free flow of information. On the other hand, effective communication is a way that a whole industry can improve its performance. Overcoming mistrust is the first step of communication. In this project, the industry association — viewed as a neutral party — developed workshops, then conducted educational site audits to help shipyards develop best management practices.

Blackjack Creek Brochure

Sponsor

City of Port Orchard

PIE Funding

$ 4,200

Target Audience

Port Orchard residents

Area Covered

Port Orchard

Purpose

To educate the public about the hazards of dumping used automobile oil and other chemicals into storm drains that affect Blackjack Creek, a salmon spawning stream.

Products

Blackjack Creek Brochure

A Life of its Own

The camera-ready copy of the brochure has been offered to other agencies or organizations that wish to reprint it.

Unexpected Challenge

Delivering the information to homeowners did not necessarily mean that people were informed. According to the follow-up survey, half of the people who received the brochure did not remember seeing it!

Project Coordinator

Lawrence Curles
City of Port Orchard
216 Prospect St.
Pt. Orchard, WA 98366

(206) 876-4991

Project Timeline

1989-1991

Blackjack Creek Brochure, continued

Methods

- Developing and distributing an educational brochure that encourages recycling of petroleum products.
- Forming a steering committee that included representatives from the local conservation district, Public Utility District #1, the Suquamish Tribe and the county recycling coordinator to assist in the design of the brochure.
- Working with the staff of local oil recycling sites to track the level of participation.
- Organizing a Boy Scouts project for stenciling storm drains and catch basins with the message "Dump No Waste–Drains to Stream."

Results

- The brochure was distributed to 1,900 homes and apartments, and also to retail sellers of motor oil.
- The Boy Scouts stenciled 90 catch basins and mounted anti-littering posters along the waterfront.
- A follow-up survey confirmed that people who read the brochure thought it was effective.

Notes

Effective education programs find ways to engage their audiences, not just "feed" information to them. In this project, a follow-up survey revealed that many in the intended audience didn't remember ever receiving the message. In addition to helping improve the distribution or impact of the original brochure, the survey helped pinpoint a critical audience for the next educational effort.

Boater's Education Project

Sponsor

Port of Port Townsend

PIE Funding

$ 8,000

Additional Resources

$ 5,000 for more signs plus in-kind contributions from the Port of Port Townsend.

Target Audience

Recreational boaters, commercial fishers and marine workers.

Area Covered

Port of Pt. Townsend's Boat Haven and Point Hudson Marina.

Purpose

To reduce bottom sediment and surface microlayer contamination in Puget Sound by educating boaters about the value of marine life and steps they can take in the marina or boatyard to protect habitat and improve water quality.

Products

- *Best Management Practices for Boaters* guide.
- Four sets of informational signs.
- Informational flyers.

Unanticipated Success

"We were surprised at how quickly boaters responded to this program. I believe this shows that boaters genuinely care about the environment. If we can show them a better way of doing their necessary maintenance and repairs and also show the benefits to the marine ecosystem, then they are more than willing to do whatever they can to protect the environment."

—Ken Radon, project coordinator

Project Coordinator

Ken Radon
Port of Port Townsend
P.O. Box 1180
Pt. Townsend, WA
98368

(206) 385-2355

Project Timeline

1991-1993

Boater's Education Project, continued

Methods

- Partially replicating the PIE-funded project at Quartermaster Harbor (described on page 97).
- Installing interpretive signs at the Port of Port Townsend Boat Haven, the marina and the haulout facility to provide information to boaters and harbor users about the ecosystem of the Sound.
- Distributing flyers to all port patrons describing proper precautions, containment and disposal activities for hazardous wastes from boat maintenance and building activities.
- Stenciling storm drains leading to Pt. Townsend Bay and adjacent to port tidelands with the message "Dump No Waste–Drains to Bay."
- Designating waste disposal sites at the port.
- Holding a series of workshops on best management practices for boaters.
- Providing all port tenants with a copy of the best management practices guide. New tenants receive a copy when they sign up.

Results

- The port has seen an increase in efforts by tenants to incorporate best management practices into their repair and maintenance routines.
- Boaters have a greater appreciation of the marine ecosystem which will lead to the use of tarps, drip pans, drop cloths and sewage pumpouts.

Notes

This project replicated the methods and success of the Quartermaster Harbor Alliance Boaters' Project (described later in this chapter) by applying it in a public marina with a higher percentage of commercial tenants.

Change and Recycle (C.A.R.) Oil Program

Sponsor

Communications Northwest

PIE Funding

$ 25,000

Additional Resources

In-kind service contributions from Communications Northwest.

Target Audience

Do-it-yourself oil changers and oil retailers, wholesalers and processors.

Area Covered

Soundwide

Purpose

- To involve retailers of motor oil in promoting recycling and proper disposal of their product.
- To educate do-it-yourself oil changers of the consequences of dumping used oil improperly, and to encourage them to recycle or properly dispose of the oil.

Products

- Window stickers and counter cards for stores promoting oil recycling.
- Brochure with discount coupon for reusable oil recycling kit.
- Training packet for store employees.

Unexpected Outcome

Initially it was difficult to find locations that accept used motor oil. However, after learning of this difficulty, several committee members began collecting used oil at their stores. Two additional retailers and two recycling businesses voluntarily joined the project.

Audience Response

"Our customers and our employees have appreciated the community effort to clean up Puget Sound. I've received over 500 redeemed coupons... With this in mind we have opted to reprint the brochure at our own expense."

—Laura Stutsman, program participant

A Life of its Own

Several of the cooperating retailers reprinted brochures and continued the program at their own cost.

Award

The project received a Totem Award from the Puget Sound Chapter of the Public Relations Society of America.

Project Coordinator

R. Danner Graves
Communications NW
111 W. Harrison St.
Seattle, WA 98119

(206) 285-7070

Project Timeline

1990-1991

C.A.R. Oil Program, continued

Methods

- Convening a 10-person design committee, with representatives from auto supply, auto parts and auto services shops plus hazardous waste processors and competitors in the oil market joining together for environmental protection.
- Installing education and promotion programs in retail outlets.
- Distributing 100,000 brochures (each with a discount coupon for purchase of a reusable oil recycling kit) to the public in 50 school districts.
- Publicizing the program through the distribution of media kits to newspapers and TV stations.
- Training employees in all participating stores to promote oil recycling.
- Distributing 500 counter cards explaining the program to retail outlets.
- Encouraging the next generation of do-it-yourself oil changers to recycle oil by making information available to all public high schools and vocational schools that offer auto mechanics training.

Results

- Elements of this program have been permanently adopted by several large automotive retailers, including Shuck's, Al's Auto Supply, NAPA and Fred Meyer.

Notes

Involving critical players in an advisory or steering committee role can help correct problems as they emerge during a program. In this project, the lack of oil recycling drop-off facilities was corrected because of the commitment to success by key business representatives on the advisory committee. They were able to mobilize resources midway through the program to ensure success. That commitment went beyond the scope of the original problem to provide a solution that long outlasted the project.

Hazardous Waste Management Assistance for Drycleaners

Sponsor

Washington State Drycleaners Association

PIE Funding

$ 37,000

Target Audience

Owners and operators of drycleaning services within the Puget Sound region.

Area Covered

Soundwide

Purpose

- To inform drycleaners of the effects of improper disposal of hazardous waste generated by their businesses, the benefits of proper disposal and the options available for proper disposal.
- To improve compliance with proper waste management guidelines.

Products

- Brochure, in Korean and English, on the effects of improper waste disposal and the benefits and savings of proper disposal.
- Profile of Puget Sound drycleaners.

Project Strategy

To develop an efficient system for scheduling one-on-one visits, the project team used a computerized system that included the locations of highways, nearest cross streets and numbered exits from freeways. With this information, visits could then be easily plotted on an existing state map.

A Life of its Own

EPA, Region 10, highlighted the project as part of an educational video for drycleaning professionals throughout the United States.

Audience Response

Writing for *The Western Cleaner and Launderer*, Jack Ellison lauded this effort as a "unique, first of a kind" project. "Although owners have no obligation to comply, they usually immediately see this as an opportunity to learn and benefit."

Project Coordinator

Deborah Rechnitz
Wa. Drycleaners Assn.
3425 Vernhardson St.
Gig Harbor, WA 98335

(206) 851-6327

Project Timeline

1989-1991

Methods

- Preparing and distributing a technical brochure (in English and Korean) for drycleaners, including the costs and fines of improper disposal and the methods and available resources for proper disposal.
- Compiling a profile of drycleaners in the Puget Sound region (for example, the numbers of Korean-speaking business owners and employees or establishments complying with current hazardous waste regulations).
- Training a field representative in communication skills, industry standards, needs of small drycleaning establishments and Korean cultural awareness.
- Providing one-on-one training to over 1,200 drycleaning establishments in the Puget Sound region, beginning with those not complying with existing hazardous waste regulations.

Results

- Research showed that at the beginning of the project, approximately 57 percent of all drycleaning establishments were in compliance; at the end of the project, that number had grown to 95 percent. Forty percent of the people visited were of Korean descent.

Notes

Small businesses often lack the resources to incorporate new technologies or comply with new regulations. This problem may be worsened if there are language or cultural barriers involved. In this project, a trade association provided technical assistance — in two languages — to help individual businesses adapt to changes in the regulatory environment. The results reaffirm the strength of peer education as an effective tool.

How Land Development Affects Our Water Resources

Sponsor

The Building Industry Association of Washington and the Washington Association of Realtors

PIE Funding

$ 25,000

Additional Resources

$ 4,000 in matching funds from the project sponsor.

Target Audience

Builders, developers, real estate agents, the general public and local and state officials regulating land development.

Scope

Soundwide

Purpose

- To educate landowners, builders, real estate agents, government officials and interested parties throughout the Puget Sound region on the importance of proper wetland and stormwater management, the procedures for development required by governments and the impacts of development on stormwater systems and wetlands.
- To promote better working relationships among all levels of government, property owners and managers, environmentalists, concerned citizens and the building industry.

Products

- *Building in Puget Sound is Wetland and Stormwater Management*, a how-to manual.
- Monthly newsletter.

Audience Response

"The program was a big success for everyone involved. We saw this project as an opportunity to educate our membership about some very important issues affecting our industry."

—Dick Rokes, President, Building Industry Association of Washington

Project Coordinator

Bob DeGarmo
Building Industry Association of Wash.
P.O. Box 1909
Olympia, WA 98507

(206) 352-7800

Project Timeline

1990-1991

Methods

- Providing an open forum between regulators and those being regulated in the form of five day-long workshops at which attendees learned about industry concerns as well as the interest of government regulations and processes.
- Producing and distributing a monthly newsletter.
- Developing a "how-to" manual, which includes materials from federal, state and local agencies, an outline of proposed and current regulations and a directory of implementing agencies affecting wetlands and stormwater in the Puget Sound region.

Results

- Workshops were attended by over 400 professionals and interested members of the public. The workshops indirectly reached more than 1,200 people.
- This project provided valued information about current regulations and guidelines for development to an industry that is greatly affected by these new rules.

Notes

Effective water quality education requires new partnerships among agencies, citizen groups and between public and private sectors. This project carried the concept of partnership further in the private sector. A statewide builder and developer association teamed up with a statewide realty association. The effect was improvement of both associations' understanding of opportunities and responsibilities in dealing with water quality issues.

NPDES Boatyard Handbook

Sponsor

Northwest Marine Trade Association

PIE Funding

$ 40,000

Additional Resources

Northwest Marine Trade Association paid for extra staff assistance on mailings and for phone and transportation costs.

Target Audience

Boatyard owners and operators, employees, independent boat repair contractors and others involved with boatyards.

Area Covered

Soundwide

Purpose

- To help boatyards understand and comply with NPDES boatyard permits.
- To provide information and materials to help them operate in an environmentally sound manner and make their operations models for other marine businesses and recreational boaters.
- To help Washington's boatyard operators understand their role in protecting the state's waters.

Products

- *Boatyard Operators Handbook*, a manual describing how to comply with NPDES requirements.
- Promotional brochure.

Unanticipated Success

Knowledge of boatyard operators' needs grew from this project. This knowledge and experience is being called upon by marine groups in other parts of the country.

Unexpected Challenge

"It was difficult at first to gain credibility with skeptical agencies and environmental organizations. The industry has been part of the problem for so long that people had difficulty trusting our intentions. Once this was overcome, however, support was significant."

—Hal Schlomann

Project Coordinator

Hal Schlomann
NW Marine Trade Association
1900 N. Northlake Way
Suite 233
Seattle, WA 98103

(206) 634-0911

Project Timeline

1991-1993

Methods

- Contacting boatyards and businesses performing boatyard activities to inform them of the new National Pollutant Discharge Elimination System (NPDES) general permit requirements.
- Conducting eight regional workshops to provide information and reference materials about NPDES permits, related requirements and best management practices for boatyards.
- Identifying operational changes and equipment and demonstrating monitoring techniques and record-keeping procedures that may help boatyards and businesses comply with permit requirements.
- Cooperating with and assisting wholesalers in their independent efforts to train outside sales personnel about permit conditions.
- Producing a *Boatyard Operators' Handbook*, with reference materials that included the general permit and application form, a fact sheet, state water quality regulations, best management practices, record-keeping aids, and model spill and solid waste management, reduction, recycling and disposal plans.

Results

- Ecology reports that a high percentage of eligible industry members have filed for permit applications.
- Many workshop participants have expressed a willingness and desire to help clean up our state's waters.

Notes

Recent changes in regulations require boatyards and marinas to operate under permits for the treatment and discharge of stormwater. In this project, an industry association provided training before the permit was required. This has given the newly regulated businesses a critical head start learning to prepare for and adopt the new requirements.

Oil Recycling Project

Sponsor

Olympia School District No. 111

PIE Funding

$ 3,540

Target Audience

High school students and staff from Capital and Olympia High Schools.

Area Covered

City of Olympia

Purpose

To provide high school students with the opportunity to work cooperatively toward a common purpose: the appropriate disposal of used motor oil.

Products

- Brochures describing appropriate methods motor oil disposal.
- Student marketing plan for selling oil disposal containers.

Unexpected Outcome

Heightened awareness prompted some of the students to get involved in a local stream project with Trout Unlimited and the Hulbert auto dealership.

Unanticipated Success

High school students became involved as mentors with children at Roosevelt Elementary School. High school science students did an outstanding job of talking to elementary classes about water quality.

A Life of its Own

Science programs at both high schools will involve students in water quality testing with kits purchased for the project. A local elementary school also intends to replicate the project.

Project Coordinator

Larry Freshley
Olympia School District No. 111
1113 East Legion Way
Olympia, WA 98501
(206) 753-8916

Project Timeline

1989-1991

Methods

- Identifying and recruiting key student leaders and participants from science, marketing and graphics classes to design and produce an informational brochure on the recycling of waste oil and to develop a marketing plan for selling the containers.
- Purchasing oil recycling containers.
- Having the students sell the containers and inform people about oil disposal and recycling.

Results

- Project participants sold 400 oil disposal containers. A follow-up survey revealed that people who purchased a container used it and disposed of their oil in an appropriate manner.
- Based on the number of containers sold, an average of two oil changes per year and an estimated 50 percent incidence of improper oil disposal, the project team estimates that their students' efforts will keep 1,500 to 2,000 quarts of oil out of the Sound.
- People who did not purchase containers received printed information about oil disposal methods and locations and had the option of discussing the problem of waste oil with an informed student.
- The project increased staff and student awareness and involvement in water quality issues.

Notes

Effective education is more than simply transferring knowledge about a particular subject. In this program students developed useful career skills by marketing products that offer solutions to water quality problems. The mix of the "what" – oil recycling – with the broader perspective on the "how" through marketing and developing promotional materials have helped the students link their environmental values with developing career skills.

QUARTERMASTER HARBOR ALLIANCE BOATERS' PROJECT

SPONSOR

Quartermaster Harbor Alliance

PIE FUNDING

$ 10,200

TARGET AUDIENCE

Commercial and recreational boaters.

AREA COVERED

Vashon Island and the Kitsap Peninsula.

PURPOSE

To reduce water column, surface and sediment contamination of Quartermaster Harbor on Vashon Island by teaching boaters how to protect Puget Sound and by conducting beach cleanups.

PRODUCTS

- Interpretive displays at the Yacht Club and Marina.
- *The Main Sheet* newsletter.

A LIFE OF ITS OWN

The project display has been reproduced and installed at Shilshole Bay Marina in Seattle.

PROJECT COORDINATOR

Barbara Nightingale
Quartermaster Harbor Alliance
P.O. Box 97
Burton, WA 98013
(206) 463-3624

PROJECT TIMELINE

1990-1991

Quartermaster Harbor Alliance Boaters' Project, continued

Methods

- Building dockside displays at the Quartermaster Harbor marina and yacht club describing the marine ecosystem and measures boaters can take to protect the ecosystem.
- Presenting seven workshops on best management practices for boaters and boatyards on the Kitsap Peninsula.
- Publishing a newsletter on environmentally sound boater activities and maintenance techniques.
- Providing hazardous waste disposal sites and information on disposal alternatives at boat haulout sites.
- Involving young people in beach cleanups.
- Stenciling storm drains that flow into the harbor with a "Dump No Waste–Drains to Bay" message.

Results

- Collection of over two tons of garbage (mainly plastic debris) from Vashon Island beaches.
- Better stowage of garbage on boats.
- Increased use of tarps to catch boat hull scrapings, drippings and spillage, which should result in less contamination of sediments and surface waters.
- Publication of articles about the life-cycles of herring and barnacles in the local press, with editorial emphasis on impacts to these creatures from poor boating practices.

Notes

Work performed in and around boatyards and marinas often often leads to stormwater contamination. Yet boat owners are potentially among the most highly motivated of all water quality audiences. This project targeted yacht club members and other users of Quartermaster Harbor marina and provided them with knowledge about the marine environment, marine debris problems and boat maintenance practices.

Rainy Days in Federal Way:
The Problems of Stormwater Runoff

Sponsor

Federal Way Water and Sewer Citizen Advisory Committee

PIE Funding

$ 5,200

Additional Resources

$ 800 in matching funds to complete the video.

Target Audience

Area residents and students.

Area Covered

Federal Way area served by the water and sewer district.

Purpose

To inform Federal Way residents about the damaging effects of stormwater runoff on Puget Sound and to suggest remedies to correct runoff problems.

Products

Rainy Days in Federal Way video and accompanying fact sheet produced by junior high students.

Unexpected Challenge

According to one project team member, "some superhuman efforts" were required to channel the enthusiasm of junior high school students involved in video production. Working with older students may have required less of an effort.

Unexpected Outcome

Through the advisory process, key people from the new city of Federal Way and the local water and sewer district had a chance to meet and work together for the first time.

A Life of its Own

The Federal Way Water and Sewer District plans to produce similar public information videos, using a student group to describe the sewage treatment plant.

Project Coordinator

Lois Kutscha
Federal Way Water and Sewer District
31627 First Ave. S.
Federal Way, WA
98063

(206) 939-4792

Project Timeline

1990-1991

Rainy Days in Federal Way, continued

Methods

- Convening a citizen advisory committee to supervise production of a videotape and fact sheet on stormwater runoff by Sacajawea and Kilo Junior High School science clubs.
- Interviewing stormwater managers and experts for background material.
- Recruiting students to write, narrate and produce the video.
- Presenting the video to schools and community groups.

Results

- Twenty junior high school students were involved in the project and became advocates for the watershed.
- Runoff problems were easier to understand because the video "brought the issue home" by emphasizing areas specific to Federal Way.

Notes

The pace of change in rapidly urbanizing communities puts great strain on citizens' ability to learn and act. Mobilizing resources at hand is a good first step. In this project, a local stormwater advisory committee recruited junior high school students to help educate the community about stormwater issues. The students benefitted with a concentrated course in stormwater management; the community benefitted with a student-produced video shown in other schools and to community organizations.

Roosevelt School Stormwater Education Project

Sponsor

Olympia School District No. 111

PIE Funding

$ 12,400

Additional Resources

Matching funds from the local PTA and the school district.

Target Audience

Students, parents, neighbors and businesses of Roosevelt Elementary School community.

Area Covered

Northeast Olympia

Purpose

To increase awareness of Roosevelt Elementary School students, their parents, neighbors and local businesses about how their activities contribute to stormwater runoff and what they can do to reduce pollution of Puget Sound from stormwater runoff.

Products

Public service announcements

Audience Responses

"My child now monitors the amount of water we use when we brush our teeth."

"When I was burning leaves, my daughter refused to leave me alone until I promised not to dump flammable stuff on it to make it go. I was annoyed, but she was right."

—Parents of participating students

Project Coordinator

Kay O'Sullivan
Roosevelt Elementary School
c/o Olympia School District No. 111
1113 East Legion Way
Olympia, WA 98501

(206) 753-8972

Project Timeline

1990-1991

Roosevelt School Stormwater Education Project, continued

Methods

- Raising awareness through a year-long program of activities that show the connections among stormwater runoff and drinking water, streams, wetlands, the marine environment and hazardous waste.
- Encouraging parents and neighbors to recycle oil.
- Hosting a community water quality fair to involve families and neighbors.
- Developing public service announcements.
- Stenciling storm drains on neighborhood streets.
- Conducting a student survey of parents and neighborhood residents before and after the project to assess changes in knowledge and behavior.
- Distributing an existing pamphlet to parents, neighbors and local businesses.
- Involving students in an examination of school practices affecting stormwater.

Results

- Pre- and post-project surveys appeared to show an increase in awareness.
- Students' knowledge spread to families and neighbors.

Notes

The school and the neighborhood are great classrooms for environmental education. Roosevelt Elementary School made water the focus of its entire school year, weaving it through all the subjects. In the process, the students saw their learning environment expand to the streets and ravines of the neighborhood. In addition, they polled residents on water quality awareness and invited the community to a water quality fair at the school. Not only did the classroom expand, but the class itself grew to include the entire community.

Scrap Metal Recycling Environmental Guidance

Sponsor

Pacific Iron and Metal with Metro, the Institute of Scrap Recycling Industries and EMCON Northwest

PIE Funding

$ 7,554

Target Audience

Operators and employees of metal recycling facilities.

Area Covered

Soundwide

Purpose

To reduce contamination of stormwater runoff from metal recycling operations by developing best management practices for the industry.

Products

Scrap Metal Recycling Environmental Guidance Manual.

Unexpected Challenge

The most difficult problem encountered was reconciling different interpretations of industry requirements by various agencies. Metro, the Department of Ecology and EPA were not always in agreement on proper environmental procedures that ensure compliance with various state and federal laws and rules.

Unanticipated Success

Some of the best management practices that were developed for the manual are going to be incorporated by the Institute of Scrap Recycling Industries, which means that they will be distributed in all 50 states.

Project Coordinator

Rick Sternoff
Pacific Iron and Metal
P.O. Box C-3637
Seattle, WA 98124

(206) 628-6232

Project Timeline

1991-1993

Scrap Metal Recycling Environmental Guidance, continued

Methods

- Cooperating with the Municipality of Metropolitan Seattle (Metro) to develop background information and a potential distribution list.
- Developing and distributing a manual that discusses the contamination of stormwater runoff from these facilities, identifies best management practices to reduce or prevent stormwater contamination and presents information on new state requirements for stormwater control.
- Making a presentation at a meeting of the Pacific Northwest Institute of Scrap Recycling Industries.

Results

- Forty-five manuals have been distributed.
- Test results showed that stormwater contamination at Pacific Iron and Metal was greatly reduced after the company put in place best management practices described in the manual.
- By providing a single environmental reference, Pacific Iron and Metal has made it easier for metal recyclers to operate in an environmentally sensitive manner.

Notes

Among most businesses, innovation and discovery are treated as valued property that can improve the firm's competitive position in the market. In this project, Pacific Iron and Metal took a different view. Startled at the revelation that they contributed to water quality problems, they voluntarily developed best management practices suited to their plant. In the process, they discovered techniques for protecting water quality that were so valuable that they chose to "give it away," to improve the performance of their whole industry. In their P/E Fund project, they developed a "how-to" manual for their industry — including their competitors.

SEDIMENTAL JOURNEY

SPONSOR

City of Bremerton

PIE FUNDING

$ 16,500

ADDITIONAL RESOURCES

Donations of staff time and materials.

TARGET AUDIENCE

Service clubs, community groups, students and visitors to City Center Waterfront Park.

AREA COVERED

Sinclair Inlet

PURPOSE

To provide the public with information on contaminated sediments in Sinclair Inlet, including sources of historical industrial pollution, present solutions and the public's role in implementing these solutions.

PRODUCTS

- *Sedimental Journey* slide show and script, suitable for presentation with minimal presenter training.
- Interpretive displays.

UNEXPECTED CHALLENGE

"It was a real challenge to develop displays that did not point fingers at polluters but rather engaged everyone as part of the solution."

—Don Pratt

UNEXPECTED OUTCOME

Because of the involvement of so many different jurisdictions, it was almost impossible to get approval to install the panels. However, once they were completed, the power of the product sold itself and agencies were more than happy to participate.

PROJECT COORDINATOR

Don Pratt
City of Bremerton
239 Fourth St.
Bremerton, WA 98310

(206) 478-5275

PROJECT TIMELINE

1990-1991

Sedimental Journey, continued

Methods

- Installing interpretive signs on the Bremerton recreational pier and developing a slide show program to show existing sediment and marine life conditions, tell why these conditions exist, explain potential health consequences, identify corrective actions currently underway and suggest ways to be involved in the solutions.

Results

- Four interpretive panels were installed at the Overwater Park in Bremerton, at the Port Orchard marina and at two neighborhood waterfront parks in Bremerton.
- Slide show was presented to area fourth grade marine science classes, at local libraries and at Clean Water Weekend festivities.

Notes

Stormwater and contaminated sediments are difficult subjects to make exciting or inspirational for casual audiences. In this project, the city of Bremerton used interpretive signs at a new waterfront park to tell the story of stormwater and sediments. The project was a twist on the traditional use of interpretive signs to "tell the story behind the scenery."

Storm Drain Stenciling

Sponsor

Skagit Valley YMCA

PIE Funding

$ 3,198

Additional Resources

Materials and volunteer time donated by local government, the Department of Ecology and Draper Valley Farms Corp., plus $ 2,290 raised from other sources.

Target Audience

Members of the YMCA Earth Corps and other residents of the Skagit River Valley.

Area Covered

Skagit County, focusing on neighborhoods with storm drains.

Purpose

- To reduce the amount of pollution entering Puget Sound via Skagit County storm drains by bringing together YMCA Earth Corps and area groups in a cooperative effort.
- To develop youth leadership skills in environmental stewardship.
- To educate residents about the storm drain system and responsible disposal of wastes.

Products

4,000 door hangers with waste disposal information.

Unexpected Challenge

Graduation and other losses of YMCA Earth Corps student organizations made completion of the project a challenge. Corps team leadership was carried forward by the remaining young people who continued to support the project.

Unanticipated Success

Outreach to a Mt. Vernon middle school resulted in students adopting a local creek and taking on responsibility for stenciling the neighborhood near their school.

Project Coordinator

Julie Carpenter
Skagit Valley YMCA
215 E. Fulton St.
Mt. Vernon, WA 98273

(206) 428-8553

Project Timeline

1991-1993

Storm Drain Stenciling, continued

Methods

- Educating residents about the storm drain system, its connection to Puget Sound and an individual's responsibilities in preventing pollution from entering the system.
- Making presentations in classrooms about storm drains and stenciling.
- Stenciling storm drains with the message "Do Not Dump–Drains to Stream."
- Preparing a materials and procedures record for others to use when the storm drains require re-stenciling.
- Distributing over 3,000 informational door hangers in areas with storm drains.

Results

- Public works departments now have maps indicating the storm drains stenciled in their cities.
- The youth involved in stenciling revealed tremendous shifts in their attitudes as they became responsible "stewards of the storm drains."

Notes

Storm drain stenciling has become a common class activity to help students understand that streets are also waterways when it rains. In this project, Earth Service Corps participants used the visibility of storm drain stenciling to conduct door-to-door outreach in their semi-rural neighborhoods.

WATER QUALITY SWALES

SPONSOR

National Association of Industrial and Office Parks (NAIOP)

PIE FUNDING

$ 35,000

ADDITIONAL RESOURCES

Subcontractors contributed labor and materials for workshops.

TARGET AUDIENCE

NAIOP members, real estate developers, design professionals and government agency staff.

AREA COVERED

Soundwide

PURPOSE

- To educate the target audience about the relationship between land development and Puget Sound water quality.
- To explain and promote the use of vegetated swales for biofiltration and surface water management in industrial and office park developments.

PRODUCTS

- *Guidebook for Water Quality Swales.*
- *Water Quality Swales* video.

UNEXPECTED OUTCOME

The video and technical guidebook continue to be used by agencies and consulting firms for in-house seminars.

AWARD

The project received the Honor Award from the Washington chapter of the American Planning Association.

AUDIENCE RESPONSE

"This project was helpful because it allowed us to cooperatively discuss water quality... with public agencies."

—George Sherwin, Quadrant Corporation

PROJECT COORDINATOR

Richard Weinman
NAIOP
c/o Huckell/Weinman Associates
205 Lake St. South
Kirkland, WA 98033

(206) 828-4463

PROJECT TIMELINE

1989-1991

Methods

- Taking a multimedia approach, producing a video overview of surface water management issues and a published compilation of technical data on the design and function of water quality swales and presenting informational workshops with expert panelists.
- Fostering a cooperative dialogue on water quality issues among private developers and public agencies.
- Promoting use of water quality swales in commercial development projects to control stormwater runoff.

Results

- One hundred and eighty-nine people attended the workshops and 2,000 copies of the technical guidebook were distributed.
- Several trade journals and other publications reprinted an article on swales submitted by the project team.

Notes

Often, the best source of proven solutions for water quality problems is the business community itself. The sharing of such success stories represents two educational victories: the quality of the information itself and the recognition of innovation and achievement. In this project, a national association shared successful cases of grass-lined swales being used to manage stormwater and gained national recognition for their role as a leader in finding environmental solutions for their industry.

PROTECTING WETLANDS

Marshes, bogs, fens, swamps, wet meadows and other systems we call "wetlands" form an irreplaceable part of each watershed. These are the collectors, filters and distributors of water, crucial organs of the land that store and treat surface water and recharge the underground supplies called aquifers. In addition, the various types of wetlands form some of the most productive habitats we have, supporting whole communities of plants and animals.

Protecting wetlands is complex because the systems are complex. We can't see all the physical, biological and chemical processes at work. For too long, we've taken those processes for granted – so much that with wetlands dwindling we find that the costs of providing human-made measures to perform the same "work" are prohibitively expensive.

Wetlands issues are complex too, because traditional means of protecting them haven't worked. Principles of property rights and the authority of government agencies call into question just what measures society can use to protect its wetland legacy. Like other areas that involve water quality, the complexity of the issues calls for multiple solutions; no one "right" answer will suffice.

The following projects reflect a variety of ways that wetlands in the Puget Sound region have been addressed by educators. Some projects have defined small but critical audiences, like land trusts, developers and public decision-makers. Others have built bridges between students and wetland owners. Others have broadened the constituency for wetlands by developing databases, bibliographies and other similar resources.

As diverse as these audiences and strategies are, one theme runs through all of these projects: there are ways that everyone, regardless of political stance, can bring at least one solution to the table. Whether that solution is regulatory or voluntary; preventive or corrective; broad in scope or involving only one small area, it is in everyone's interest that Puget Sound's wetlands thrive.

Key Audiences for Wetlands Projects

PUBLIC
Including community organizations and land trusts

HOMEOWNERS
Including landlords, tenants and landowners

BUSINESSES
Including banks, consultants, attorneys

GOVERNMENT
City and county government agencies

SCHOOLS
Teachers and students

DEVELOPERS
Including real estate brokers and builders

TRIBES

Look for these symbols in each of the PIE project descriptions to find out which audiences the project coordinators targeted.

Key Strategies for Reaching Audiences for Wetlands Projects

- ❑ Workplace workshops
- ❑ Kitchen talks
- ❑ Site Tours
- ❑ Brochures/Newsletters
- ❑ Guidebooks
- ❑ Model protection plans
- ❑ Curriculum
- ❑ Slide shows
- ❑ Informational meetings

CAPITOL LAND TRUST

SPONSOR

Capitol Land Trust

PIE FUNDING

$ 32,000

TARGET AUDIENCE

Staff of Puget Sound land trusts.

AREA COVERED

Soundwide

PURPOSE

- To increase the number of high quality wetlands that are protected by Washington land trusts.
- To promote partnerships between land trusts and all levels of government for more effective utilization of resources for wetlands preservation.
- To provide training and educational materials on the identification of high quality wetlands, resource information on site assessment and management.

PRODUCTS

Wetland Preservation, A Resource Manual For Land Trusts (containing a model conservation easement).

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PROJECT COORDINATOR

Wendy Eliot
Capitol Land Trust
P.O. Box 3077
Lacey, WA 98503

and

Peggy Bill
Rt. 1 Box 2378
Lopez, WA 98261

(206) 468-2491

PROJECT TIMELINE

1991-1993

Capitol Land Trust, continued

Methods

- Preparing two case studies (Capitol Land Trust and Thurston County; Columbia River Land Trust and U.S. Fish and Wildlife Service) highlighting the importance of land trusts working with all levels of government to identify high quality sites and design wetlands preservation and restoration projects.
- Assessing needs of land trusts by identifying existing expertise, the number of wetlands protected and training needs.
- Providing land trusts with a reference manual which focuses on topics important for effective wetlands preservation.
- Providing field training to land trust members on wetlands assessment.
- Developing model wetlands conservation easement language for use by land trusts.

Results

- Two pilot projects in Thurston County and on the Columbia River to design and implement wetlands restoration.
- Ninety people attended three workshops.
- The Washington Department of Ecology has agreed to distribute the resource manual, printing additional copies as needed.
- The resource manual includes "boilerplate" language making it easier for land trusts to negotiate and write conservation easements.

Notes

Land trusts offer a wide range of non-regulatory strategies for protecting habitat and other environmental resources. In this project, Capitol Land Trust developed a comprehensive manual for other land trusts interested in wetlands acquisition and management. By increasing the expertise and effectiveness of these crucial private sector and grassroots organizations, more wetlands will fall under protective status.

SPONSOR

Adopt a Beach

PIE FUNDING

$ 10,000

ADDITIONAL RESOURCES

This project was a component of a much larger project, which received $ 83,000 from the Bullitt Foundation.

TARGET AUDIENCE

Shoreline residents and community groups.

AREA COVERED

Thurston, Kitsap and Pierce counties.

PURPOSE

- To help citizens organize a useful, credible and effective land and water stewardship project.
- To develop lasting partnerships between volunteers and local agencies responsible for protecting the environment.

PRODUCTS

Customized field manuals for shoreline, wetlands and shellfish monitoring.

UNEXPECTED OUTCOME

Interest in volunteer assistance with monitoring activities has increased among local governments of the three targeted counties.

127

PROJECT COORDINATOR

Ken Pritchard
Adopt a Beach
P.O. Box 21486
Seattle, WA 98111

(206) 624-6013

PROJECT TIMELINE

1991-1993

Methods

- Identifying local needs for shoreline and wetlands stewardship.
- Facilitating agreements between volunteer groups and local government agencies with monitoring programs.
- Tapping into the network of experts and resources developed by Adopt a Beach during the previous six years.
- Providing a project format and adopting standardized monitoring techniques.
- Initiating wetlands and shoreline monitoring and mapping projects.

Results

- Students and other volunteers are monitoring water quality in Commencement Bay and Carr Inlet, conducting a bird census in Port Ludlow and mapping wetlands and other habitats in Auburn and Bear and Wollochet creeks.
- Of 25 organizations recruited to Catalyst, nine were enlisted through this PIE project.

Notes

Local groups often have an intense desire to act as stewards of local wetlands, streams, beaches, shorelines and other places they define as "theirs." Mobilizing such groups must include connecting them with each other, and showing how "their" place relates to the greater ecosystem. Catalyst provided such connections, including the connection to local governments for whom the volunteer energy and advocacy is an otherwise untapped resource.

Hood Canal Wetlands Project

Sponsor

Mary Theler Community Center

PIE Funding

$ 37,000

Additional Resources

Over $2 million in grants from the state Interagency Committee for Outdoor Recreation, the Legislature, the state departments of Ecology, Natural Resources and Wildlife, and other sources.

Area Covered

Belfair

Target Audience

Public school students in grades K-12, college graduate and undergraduate students and faculty, and the public.

Purpose

- To promote awareness of the value of wetlands and their water resources.
- To provide an opportunity for educational institutions to cooperate in using a range of resources to design a customized curriculum on wetlands.

Products

- *The Hood Canal Wetlands Project* video.
- A field guide to the birds, vegetation and insects of the wetland.
- A master plan for trails.

Unexpected Challenge

The project's scope grew far beyond what was originally envisioned. Keeping the lines of communication open among public school and college staff, the project team and participants became a major task.

Awards

In part for its ambitious wetlands project, the North Mason School District was chosen to receive a "Schools for the 21st Century" grant. It also received achievement awards from *Pacific Northwest* magazine and the Hood Canal Coordinating Council.

Project Coordinator

Jerry Walker
Mary E. Theler Community Center
P.O. Box 1445
Belfair, WA 98528

(206) 275-8119

Project Timeline

1992-1993

Hood Canal Wetlands Project, continued

Methods

- Developing a core library of reference texts on water quality, wetlands and related environmental subjects, housed in the North Mason High School with satellite libraries in middle and elementary schools.
- Developing and exchanging lesson plans among teachers.

Results

- Eight hundred and fifty students from four schools made field trips to "walk the wetlands."
- North Mason county school teachers reported 356 hours of classroom wetlands activities.
- A Summer Water Quality Festival with 23 exhibits (including many PIE projects) was attended by 3,500 people.
- Sixty-three acres of adjacent Washington Department of Wildlife wetlands property was joined to the original Theler Wetland to coordinate protective status and planning on 135 acres of wetlands.
- The Schools for the 21st Century grant focused wetlands education as the core curriculum for North Mason High School.
- Systematic water quality testing is a permanent part of the high school curriculum.

Notes

In this project, a community organization began linking the local high school with other institutions and agencies to create a comprehensive wetlands education program around a local wetland. By carefully incorporating other organizations' agendas into their own, project leaders developed a stable, long-term funding base for the project and were able to preserve and add additional acres of wetlands to the site.

WASHINGTON WETLAND NETWORK

SPONSOR

Seattle Audubon Society – WETNET

PIE FUNDING

$ 22,400

ADDITIONAL RESOURCES

$ 25,000 from the Environmental Protection Agency

TARGET AUDIENCE

Public, community and environmental groups, Tribes, landowners, developers and agencies.

AREA COVERED

Soundwide

PURPOSE

- To increase the participation of citizens and organizations in the governmental wetlands and watershed protection processes.
- To develop wetlands educational and outreach materials that supplement a citizens' training program.

PRODUCTS

- Critical Area Database.
- *Citizen's Toolbook* for understanding growth management and wetlands protection with specific chapters for various Puget Sound counties.
- Annotated bibliography of wetlands protection and enhancement material.
- *Citizen's Directory* to over 350 non-governmental organizations involved in wetlands preservation.

PROJECT COORDINATOR

Barb Douma and
Dee Arntz
Seattle Audubon Society
c/o WETNET
8028 35th Ave. NE
Seattle, WA 98115

(206) 624-6013

PROJECT TIMELINE

1991-1993

Washington Wetland Network, continued

Methods

- Developing educational and outreach materials to supplement the Wetlands Network (WETNET) database and training program funded by EPA, focused on wetlands protection, the Growth Management Act and the planning process.
- Offering workshops in wetlands protection.
- Developing a wetlands bibliography resource guide to books, articles, videos and national, state and local publications.
- Developing a resource guide to wetlands ordinances and policies in the Puget Sound region.
- Mailing bimonthly press releases listing a calendar of events related to citizen involvement opportunities.

Results

- Improved communications among many previously unconnected organizations as a result of the process.

Notes

In order to distribute information across a broad area or audience, effective networks must be created. Then the information itself must be organized according to how the network operates. This PIE project dovetailed with an Environmental Protection Agency grant to create a citizens' network of wetland resources. The PIE-funded portion created bibliographic materials, organizational directories and a citizen's handbook — the "staff" that makes the network work.

Wetland Project

Sponsor

Kingston Junior High School and the North Kitsap School District

PIE Funding

$ 4,500

Additional Resources

In-kind contributions of $ 8,095, plus notebooks and plant presses.

Target Audience

Seventh grade science students at Kingston Junior High.

Area Covered

Kingston

Purpose

To use a wetland adjacent to school property as a learning resource for educating seventh grade science students about wetlands.

Products

- Local wetlands-centered curriculum.
- Brochure on wetlands and water quality.

A Life of its Own

The wetland has become the focus for an integrated, all-school Earth Day program involving classes in science, art and language arts. Other teachers are now using the site as an outdoor classroom.

Project Coordinator

Megan McCarthy
Kingston Junior High School
c/o North Kitsap School District
9000 NE West Kingston Rd.
Kingston, WA 98346

(206) 297-7070

Project Timeline

1992-1993

Methods

- Conducting botanical and faunal surveys of selected areas in the wetland and basing individual and group learning activities on survey information.
- Conducting ongoing qualitative water monitoring in the wetland.

Results

- The survey and monitoring have involved 190 seventh graders—twice as many students as originally anticipated.
- Junior high math students used the monitoring data to learn statistical graphing.

Notes

This project helped a school neighbor exercise his own generosity toward the community. Teacher Megan McCarthy created a seventh grade wetlands curricalum designed around the wetland site. The ongoing wetlands education program is his incentive to protect the site; the seventh grade students get a living wetlands laboratory just outside the school's back door.

Wetland Restoration, Preservation and Education

Sponsor

Collins Elementary Parent Teacher Association

PIE Funding

$ 18,000

Additional Resources

1,400 volunteer hours, including dump trucks and drivers donated by local construction companies.

Target Audience

Parents, employees and students at Collins Elementary School, area residents, and Franklin Pierce School District residents and employees.

Area Covered

Collins Elementary School and Franklin Pierce School District in Pierce County.

Purpose

- To preserve and protect the Collins Wetland.
- To teach the target audience about wetlands and water quality.
- To develop opportunities for community members to contribute to the preservation and protection of Puget Sound and its wetlands.

Products

- A video documenting the project before, during and after restoration.
- *Wetland Trail Guide*, written by students to aid in the interpretation of the wetland trail.

A Life of its Own

The Clover Creek Council has been formed by participants in the project to address similar concerns in another drainage in Pierce County.

Project Coordinator

Nancy Smith
Collins Elementary PTA
4608 128th St. East
Tacoma, WA 98446

(206) 535-6330

Project Timeline

1990-1991

Audience Response

"This year, for the first time, we had a Mallard duck nest in the wetland and we now have baby ducks...To us this means that not only do we think the area looks better and is on its way to being restored, but the birds are also convinced."

—Nancy Smith

Methods

- Engaging adults and students in efforts to restore the existing wetland on school property, including cleanup of a dump site.
- Establishing an "Earth Watch" group to involve students in wetlands protection through the school's science club.
- Hosting a "Wonders of Wetlands Day" to promote community awareness of wetlands values.
- Recruiting and training older students and adults as Environmental Study Area Docents.

Results

- A 2.5-acre wetland historically used as a dump has been restored.
- Over 2,000 students, staff and community members were either involved in the restoration and education project or visited the wetland.
- Thirty-eight dump truck loads of construction debris were removed from the wetland; native vegetation was restored and an observation area built.

Notes

Existing parent participation in environmental education is crucial to successful programs. A small wetland adjacent to the school grounds was adopted by the PTA and Collier Elementary School as a living classroom. Restoration of the wetland formed the theme for developing learning materials as well as the volunteer activities for families and community members.

WETLAND STEWARDS

SPONSOR

Washington State University Cooperative Extension – King County

PIE FUNDING

$ 9,900

ADDITIONAL RESOURCES

Match for volunteer training from sponsoring agency.

TARGET AUDIENCE

Thirty volunteers for extensive training and 5,000 members of the general public.

AREA COVERED

King County

PURPOSE

To train volunteers to educate the public on strategies for protecting and restoring wetlands as part of the Cooperative Extension Land/Water Stewardship program.

PRODUCTS

- *Field Guide to Wetland Characterization: A Non-Technical Approach.*
- *Wetland Plant Guide*, a companion publication to the field guide.

UNEXPECTED CHALLENGE

Because there was so much debate on the federal level about the definition of a wetland and definitions kept changing, it was difficult to complete characterizations.

PROJECT COORDINATOR

Curt Moulton
WSU Cooperative Extension – King County
612 Smith Tower
Seattle, WA 98101

(206) 296-3900

PROJECT TIMELINE

1990-1991

Methods

- Training a core of 30 volunteers on general water quality, stewardship and wetlands protection.
- Educating the public by providing 60 hours of public outreach per trained volunteer through community workshops, presentations at public events and participation in a speakers' bureau.
- Producing a wetlands characterization field guide and general information publication for use by the public in wetlands protection.
- Sending information through *The Small Farmer Newsletter* to rural audiences.

Results

- Thirty-six volunteers received 100 hours of training as Land/Water Stewards.
- Volunteer hours have been dedicated to other projects in the community.
- 1,000 *Field Guides to Wetland Characterization: A Non-Technical Approach* have been printed and distributed throughout King County.

Notes

Recognizing the subtle differences among plant communities and soil types is critical to understanding wetlands. Because land use planning and regulation requires great precision, governing agencies have developed very elaborate methods and criteria for determining the extent of wetland communities. This project created a method useful to lay people. With minimal training and these two publications, readers can make reasonable judgements about what is and isn't a wetland. In the hands of farmers and landowners, this is good preventative medicine for wetland loss.

Wetlands and Watershed Education

Sponsor

Metropolitan Park District of Tacoma and the Snake Lake Nature Center

PIE Funding

$ 26,500

Additional Resources

Contributions from the Tacoma *Morning News Tribune* newspaper, Zellerbach Paper and Printworks for the homeowner's guide; $ 200 from Puget Sound Bank for storm drain stenciling.

Target Audience

Watershed residents, students and teachers from regional elementary schools.

Area Covered

Snake Lake watershed

Purpose

- To increase homeowner awareness of how individual actions affect urban watersheds.
- To teach elementary students about the functions and values of wetlands.

Products

- *The Adventure of Precop the Raindrop.*
- *Wetland Wonders* curriculum.
- Storm drain stencil.

A Life of its Own

The *Wetlands Wonders* curriculum became a major program offered at the Nature Center, and teacher training sessions are offered regularly.

Project Coordinator

John Garner
Snake Lake Nature Center
1919 So. Tyler St.
Tacoma, WA 98405

(206) 298-7895

Project Timeline

1990-1991

Methods

- Developing and distributing a homeowner's guide.
- Stenciling storm drains throughout the Snake Lake watershed.
- Posting watershed boundary signs.
- Staging a community watershed fair.
- Mounting a wetlands education program for area schools.

Results

- Fifteen thousand copies of *The Adventure of Precop the Raindrop*, a homeowner's guide in a comic book format, were distributed door-to-door by students from the high school science club.
- Student teams, with support from the city of Tacoma traffic engineering and stormwater utility departments, stenciled 125 storm drains with the message "Dump No Waste–Drains to Snake Lake" and the logo of a Canada Goose within a waterdrop.
- Seven "Welcome to Snake Lake Watershed" signs were fabricated and installed on major arterial roads.
- A water quality education component was added to the Natures Center's annual Discovery Day.
- The successful partnership created in this project has been expanded in a subsequent PIE project, *Puget Sound Partners* (see page 19).

Notes

Wetlands are critical organs in the body of a watershed. Nowhere perhaps is this more true than in an urban environment. In this project, an environmental learning center situated next to an urban wetland used its setting and the wetland as a focal point for a much broader water quality program. The wetland's "charisma" has attracted everyone's attention to the urbanized surroundings — and their actions — that affect it.

WETLANDS ASSESSMENT:
Buck's Lake, North and South Beaver Ponds and Hawks Hole Creek

SPONSOR

Greater Hansville Chamber of Commerce

PIE FUNDING

$ 12,000

ADDITIONAL RESOURCES

Forty percent of project staff time was volunteered.

TARGET AUDIENCE

The public in the vicinity of the proposed Hansville Greenway Corridor.

AREA COVERED

North Kitsap County

PURPOSE

- To enhance the protection of a fragile system of wetlands, wetlands buffers, wildlife habitat and open space in north Kitsap County.
- To develop a community action model for Kitsap County by involving community youth with adults in educational efforts.
- To promote attitudes and behavior patterns that support present and future environmental protection.

PRODUCTS

Wetlands inventories for Buck's Lake, North and South Beaver Ponds and Hawks Hole Creek.

PROJECT COORDINATOR

Sid Knutson
Greater Hansville Chamber of Commerce
5100 NE Admiralty Way
Hansville, Wa 98340

(206) 638-2869

PROJECT TIMELINE

1991-1993

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Wetlands Assessment, continued

Methods

- Recruiting a team of volunteers from the recently completed PIE-funded Water Watchers Program and hiring a wet lands consultant to conduct inventories.
- Performing wetlands inventories on Upper Hawks Pond, Lower Hawks Pond and Buck Lake, and their connecting streams to Hood Canal at the north end of Kitsap County.
- Educating landowners about ways to protect wetlands by preventing activities that degrade wetlands functions and values and encouraging personal participation in mitigation and enhancement efforts.
- Incorporating maps and inventory information into Kitsap County's Geographic Information System to assist citizens in the protection and preservation of wetlands.

Results

- A permanent monitoring program is being carried out by volunteers trained in this project.
- Publicity about this project has led to support throughout Kitsap County for public acquisition of these wetlands to ensure their preservation.

Notes

The Greater Hansville Chamber of Commerce has played an active role in creating a vision of balanced community development for their town. In this project, they enlisted youth of the community to help them develop a comprehensive plan for a community greenway that includes a system of high-quality wetlands.

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WETLANDS IN WHATCOM COUNTY

SPONSOR

Whatcom County Planning Department

PIE FUNDING

$ 8,000

ADDITIONAL RESOURCES

In-kind contribution of staff time by county; architectural drawings donated.

TARGET AUDIENCE

The development community, including contractors, developers, realtors and land use attorneys.

AREA COVERED

Whatcom County

PURPOSE

- To educate the development community about the functions of wetlands and to help them understand the value of wetlands.
- To increase the number and acreage of protected wetlands in Whatcom County.

PRODUCTS

- Site booklets.
- *Development and Wetlands: Are There Options?* brochure.

UNEXPECTED CHALLENGE

The project team sought to interpret proposed regulations of the county's temporary critical areas ordinance. However after the ordinance's progress was delayed by a referendum, the project team had to change its focus, exploring aspects of sound development rather than implementation of wetlands regulations.

PROJECT COORDINATOR

Terri Plake
Whatcom County
Planning Department
254 W. Kellogg Road
Bellingham, WA 98226

(206) 676-6756

PROJECT TIMELINE

1992-1993

Wetlands in Whatcom County, continued

Methods

- Providing experiential education through field study and tours of representative wetlands.
- Organizing tours to a variety of sites exemplifying wetlands categories and to one wetland mitigation site.
- Producing a handbook explaining the characteristics of each site.
- Producing an informational pamphlet about wetlands issues for distribution to the development community.
- Creating an environment for constructive dialogue about the long-term effects on Puget Sound caused by the continued loss of wetlands.

Results

- Six tours to seven sites were held, with a booklet containing an aerial photograph of each site and explaining the wetlands issues there.
- According to the project coordinator, the project created a dialogue in a community polarized by wetlands issues. In addition, tour participants became convinced of the importance of wetlands.
- A property rights organization invited the county to distribute the brochure at their booth at the Bellingham Home Show.

Notes

In analyzing popular misconceptions about wetlands, county planners found that small, upper watershed wetlands were at risk because they were easily overlooked by developers, decisionmakers and landowners. This program included site tours that gave participants a better feel for the resources, as well as practical tools for protecting and working around them.

WETLANDS PROTECTION INCENTIVES:
Non-Regulatory Approaches

SPONSOR

National Association of Industrial and Office Parks (NAIOP)

PIE FUNDING

$ 30,000

ADDITIONAL RESOURCES

In-kind services and materials.

TARGET AUDIENCE

Real estate developers, brokers, lawyers, bankers and consultants.

AREA COVERED

Soundwide

PURPOSE

- To educate the target audience about wetlands values and functions as they relate to water quality and about the federal, state and local wetlands regulatory programs.
- To identify sources of conflict or perceptions of conflict between developers and regulatory agencies and to clarify those conflicts.
- To foster cooperation between developers and regulatory agencies in implementing innovative approaches to wetlands protection.

PRODUCTS

- Four workshops.
- Slide show summarizing workshops and guidebook.
- *Wetland Incentives: Non-Regulatory Approaches to Protecting Wetlands* guidebook.

PROJECT COORDINATOR

Richard Weinman
NAIOP
c/o Huckell/Weinman Associates
205 Lake Street So.
Kirkland, WA 98033

(206) 828-4463

PROJECT TIMELINE

1991-1993

Wetlands Protection Incentives, continued

Methods

- Involving the National Association of Industrial and Office Parks, Army Corps of Engineers, EPA, U.S. Fish and Wildlife Service, local governments, environmental organizations, Washington Department of Ecology and Puget Sound Water Quality Authority in project planning to acquire a wide range of expertise in technical information.
- Compiling and summarizing existing information regarding wetlands protection programs in the Puget Sound region.
- Producing a workbook, slide show and workshops to achieve understanding of the regional context of wetlands protection issues and to help identify and minimize potential conflicts regarding the regulatory requirements.
- Presenting a series of workshops for the target audience to describe regulations and non-regulatory and incentive approaches to wetlands management.
- Planning a public information component for the project to communicate its availability and content to a larger audience.

Results

- Ninety-seven percent of workshop participants who responded to a survey said the guidebook and workshop gave them new and useful information.
- This slide program is available to local governments and other groups. Eighty percent of survey respondents who saw the slide show said their organization would find it useful.

Notes

Wetlands protection is controversial. Part of the controversy stems from the need for protection strategies outside of our traditional approaches to resource conservation. In this project, the National Association of Industrial and Office Parks assembled technical information on some of the more controversial protection methods being considered in the current debate. By placing major technical and policy issues on the table — in spite of their controversial nature — the discussion has passed from finger-pointing and denial to a more reasoned dialogue on the merits and shortcomings of these approaches.

PROTECTING FISH, WILDLIFE AND SHELLFISH HABITAT

You can measure water quality in two ways. The first is to examine just the substance – H_2O –for its purity. The second is to consider all the living things that clean water sustains and find out how they are doing. As a society, we value clean water for its own sake – its purity – and for what it is to us, a thirst quencher, a refreshing dip, an essential ingredient in an industrial process. We need clean wate, to sustain our lives. But to live fully ourselves, we also need all the other lifeforms that live in, on or around it – salmon, caddisflies, eelgrass, butter clams, pond turtles...and the list goes on.

Protecting the habits of water-dependent plants and animals requires active stewardship. But before we act in ways that affect the complex relationships between organisms and their habitats, we must know something about those relationships. In some cases, we need to know about the past – what habitats looked like before they were changed to make room for modern society. In other cases, we need to know about the specific requirements of various organisms so that the habitats providing those requirements can be reconstructed. In yet other cases, we may only need to know the techniques of preserving, restoring or reconstructing critical habitats, stream by stream, log by log, boulder by boulder and plant by plant.

For some learners, understanding habitats may begin with an encounter with the wild – a moment of amazement and wonder. For others, it begins with the ecological theory and supporting facts. For still others, it may begin with the work of restoration. In each of the following PIE Fund projects, audiences moved some distance on the journey from understanding habitats to fixing the ones that have been broken. In that journey, each learner experienced – in some way – the link that eventually binds him or her to everything living in the Puget Sound basin.

Key Audiences for Habitat Projects

AGRICULTURE
Including commercial and part-time farmers

BOATERS
Including marine operators and divers

BUSINESSES

GOVERNMENT
City and county government agencies; elected officials

SCHOOLS
Teachers and students

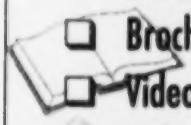
SHELLFISH HARVESTERS
Including commercial and recreational harvesters, restaurants and shellfish consumers

PUBLIC
Including community organizations, families, landowners and recreationists

Look for these symbols in each of the PIE project descriptions to find out which audiences the project coordinators targeted.

Key Strategies for Reaching Audiences for Habitat Projects

- ❑ Workshops
- ❑ Guidebooks & manuals
- ❑ Brochures
- ❑ Videos
- ❑ Habitat surveys
- ❑ School curriculum
- ❑ Interpretive displays
- ❑ Promotional items
- ❑ Media



Boundary Bay Ecosystem Awareness Project

Sponsor

Point Roberts Heron Preservation Committee

PIE Funding

$ 12,000

Additional Resources

$ 12,000 in matching funds from Labatt's Brewing Co., Environment Canada, B.C. Lotteries and others.

Target Audience

Recreationists, school groups, farmers, marine operators, boaters and members of the business community.

Area Covered

Point Roberts, Wa., and Tsawwassen, B.C.

Purpose

- To increase awareness of the effects of point and nonpoint source pollutants on the Boundary Bay ecosystem.
- To foster a commitment to action within the communities surrounding Boundary Bay.

Products

- A 300-page school curriculum guide.
- A mobile interpretive center and water quality laboratory.
- Informational brochures.

Project Coordinator

Martin Keeley
Point Roberts Heron Preservation Society
P.O. Box 1421
Pt. Roberts, WA 98281

(206) 945-3387

Project Timeline

1991-1993

Boundary Bay Awareness Project, continued

Methods

- Developing a mobile interpretive center to provide educational programs to communities, area schools and other target audiences.
- Training teachers and community volunteers to establish and operate data collection and monitoring programs for elementary, junior and senior high school students.
- Developing a Boundary Bay ecosystem teachers' resource kit.
- Designing educational programs that promote community involvement in identifying the problems and potential solutions within the Boundary Bay area.

Results

- Thousands of school children have participated in the program.
- Increased public awareness about environmental issues affecting the bay now exists.
- The local business community has become proactive in education and enhancement efforts.

Notes

Environmental problems have no international boundaries. This project focused the attention of students, teachers and community leaders from neighboring towns in two nations on the precious bay they share. When the knowledge and commitment of local citizens have no boundaries, habitats and water quality can be protected.

EELGRASS EXHIBIT

SPONSOR

Port Townsend Marine Science Center

PIE FUNDING

$ 13,000

ADDITIONAL RESOURCES

$ 2,200

TARGET AUDIENCE

Visitors to Fort Worden State Park and student groups.

SCOPE

Fort Worden, Port Townsend

PURPOSE

To provide information about eelgrass—its geographic distribution, habitat functions and its link to commercially important fish and shellfish species.

PRODUCTS

- Eelgrass aquarium and seven interpretive panels describing eelgrass ecology, hydrology, geology, impacts from development and mitigation strategies.
- A reproduction of one of the interpretive panels, *The Eelgrass Meadow: A World of Microhabitats*, is available to the public, as are original graphics for reprinting as booklets, brochures or posters.

AUDIENCE RESPONSE

"Very timely—with proposed waterfront developments [it's] important to have public education emphasizing the ecological importance of eelgrass."

—Comment from the Marine Science Center's guest register

PROJECT COORDINATOR

Judy D'Amore
Port Townsend Marine Science Center
Ft. Worden State Park
Pt. Townsend, WA 98368

(206) 385-4898

PROJECT TIMELINE

1987-1989

Eelgrass Exhibit, continued

Methods

- Designing and building an outdoor eelgrass display and interpretive panels at the Port Townsend Marine Science Center.
- Training docents to present information on eelgrass ecology to visitors.

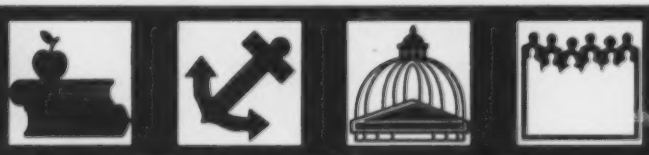
Results

- Over 40 volunteers have received training in eelgrass ecology, exhibit maintenance and public education.
- Thousands of visitors to the Marine Science Center have seen the display.
- The exhibit has become the starting point for a multi-media tour of the Puget Sound basin, currently being developed by the center.

Notes

Eelgrass beds — the waving meadows that line Puget Sound estuary shallows — form critical habitat for many marine organisms. Yet most people have no idea what lifeforms eelgrass sustain or even what eelgrass plants look like. This exhibit brings living eelgrass to eye-level and and the wonders of these plant communities into the realm of experience.

Marine Debris Publications



Sponsor

Washington Sea Grant Marine Advisory Services

PIE Funding

$ 5,000

Target Audience

Commercial fishers, recreational boaters, ports, marinas, educators, agencies and the public.

Area Covered

Soundwide

Purpose

To encourage people who use Puget Sound to be more responsible about disposing of trash.

Products

- *Marine Debris: Get a Grip on It!* poster.
- *Marine Debris.*
- *Let's Keep Our Shorelines Clean.*

Project Coordinator

Mike Spranger
Washington Sea Grant
3716 Brooklyn Ave. NE
Seattle, WA 98105

(206) 543-6600

Project Timeline

1990-1991

Marine Debris Publications, continued

Methods

- Revising and reprinting *Marine Debris: How Recreational Boaters Can Help Solve a Serious Problem; Getting a Grip on Marine Debris at Squalicum Harbor; Marine Debris: How Commercial Fishermen Can Help Solve the Problem;* and the poster, *Marine Debris: Get a Grip on It!*

Results

- *Marine Debris: Get a Grip on It!* was reprinted and distributed.
- The two marine debris publications were revised and merged into one publication and distributed.
- *Getting a Grip on Marine Debris at Squalicum Harbor* was not reprinted for soundwide distribution because it was not specific enough for other harbors in terms of pumping stations, recycling centers locations and other marine-related services. A more specific draft was revised and submitted for use at the John Wayne Marina in Sequim.
- *Let's Keep Our Shorelines Clean*, a general guide to waste disposal and marine resource protection.

Notes

By themselves, publications have minimal value as educational tools. Only when they are placed in the hands of specific audiences and used to reinforce messages from other sources are they effective. In this project, Washington Sea Grant revised several existing pamphlets based on comments of earlier versions and made them available at specific workshops and trade fairs attended by members of the target audience.

MOON'S PRAYER, WISDOM OF THE AGES

SPONSOR

Northwest Indian Fisheries Commission and KIRO-TV

PIE FUNDING

$ 15,000

ADDITIONAL RESOURCES

KIRO-TV contributed about $ 50,000 in production costs.

TARGET AUDIENCE

The general television viewing audience.

AREA COVERED

Soundwide

PURPOSE

To conduct a traditional Indian council of elders on the environment and use this as a basis for production and broadcast of a prime-time documentary on tribes and the environment.

PRODUCTS

- *Moon's Prayer, Wisdom of the Ages* video.
- *Wisdom of the Ages: The Tribes and the Environment* booklet.
- A poster and a series of public service announcements, based on *The Moon's Prayer* theme.

UNEXPECTED CHALLENGES

After the first prime-time broadcast to 100,000 viewers, hundreds of telephone calls were received by KIRO-TV and the Northwest Indian Fisheries Commission from people wanting to help the environment. However, there was no mechanism to link these potential volunteers with ongoing projects.

AWARDS

Moon's Prayer won an Emmy Award in the cultural cocumentary category.

PROJECT COORDINATOR

Stephen Robinson
Northwest Indian Fisheries Commission
6730 Martin Way E.
Olympia, WA 98506

(206) 438-1180

PROJECT TIMELINE

1989-1991

Moon's Prayer, Wisdom of the Ages, continued

Methods

- Holding a council of elders, involving tribes from several states and countries.
- Producing a 50-minute documentary video on a variety of environmental issues in the Puget Sound area, including forest practices and fisheries.
- Broadcasting the video on KIRO-TV and affiliate stations.
- Producing an accompanying informational brochure.

Results

- The video was broadcast in the United States, Canada, Mexico and at the 1992 Earth Summit in Rio de Janeiro, Brazil.
- Two hundred copies of the video and 20,000 copies of the brochure were distributed to schools in Washington state.

Notes

Over the last decade, the voices of Indian elders have joined those of environmentalists, fisheries managers and others concerned with the fate of Puget Sound salmon. What we call "fish and wildlife habitat" has many cultural dimensions, often hidden in our contemporary landscape and outlook. In this video, Tribal fishers and speakers reveal those dimensions so the rest of us can share in a new vision of Puget Sound.

Oil Spill Response Education

Sponsor

Vashon Island Bird Rescue Association

PIE Funding

$ 2,170

Additional Resources

$ 200 in local support; supplies donated by a local veterinarian and volunteers.

Target Audience

Residents of Vashon-Maury Islands.

Area Covered

Vashon-Maury Islands

Purpose

- To educate the community and members of local service and recreational organizations on the effects of oil spills on local bird populations.
- To promote an organized response to spills in accordance with the protocols and accepted practices adopted by the Washington Department of Wildlife.

Products

- Spill response training manuals:
  - —*Volunteer Support*
  - —*Transportation Support*
  - —*Search and Collection Support*
  - —*Communication Support*
  - —*Primary Care Support*
- Seven training sessions.

Project Coordinator

Margaret Boos
Vashon Island Bird Rescue Association
P.O. Box 137
Vashon, WA 98070
(206) 463-5805

Project Timeline

1991-1993

Oil Spill Response Education, continued

Methods

- Training volunteers and maintaining a roster of volunteers and island coordinators to serve in the areas of search and collection, primary bird care, transportation, communications and support services.
- Producing and distributing four newsletters per year to inform members and other people about ongoing volunteer opportunities, meeting agendas and times, changes in protocols, state-sponsored training sessions and ongoing progress of the Vashon Island Bird Rescue Association (VIBRA).
- Procuring and maintaining supplies and equipment for training sessions and for an immediate local response in the event of an oil spill.
- Holding regular educational and organizational meetings for volunteers and the general public.

Results

- A critical shortage of trained spill responders was filled.
- VIBRA received official recognition as an oil spill responder by the Washington Department of Wildlife.
- VIBRA was identified as a reserve responder to assist the Island Oil Spills Association, based in the San Juan Islands, in the event of a spill in northern Puget Sound.

Notes

Stewardship for local habitat resources requires education and organization if the citizens are to be effective. This is particularly true when the stewardship activities occur in situations of crisis or when many other parties are involved. The Vashon Island Bird Rescue Association (VIBRA) organized and trained a cadre of Vashon Island residents to assist agencies responding to possible oil spills on their island. In this project, VIBRA broadened its membership and sharpened the skills of a dedicated group of volunteers.

Protecting Salmon Habitat:
What One Business Can Do

Sponsor

Trout Unlimited and Hulbert Pontiac Cadillac (Olympia)

PIE Funding

$ 4,000

Target Audience

Citizens, public agencies, business community and students.

Area Covered

Olympia

Purpose

To encourage the use of best management practices for auto dealerships and to improve salmon and trout habitat in Indian Creek.

Products

- *Indian Creek Watershed and You* brochure.
- *Indian Creek Watershed* video.

Unexpected Challenge

Early in the project, a major flood forced the project team to modify its original goal of restoring and enhancing salmon spawning areas and to focus instead on public involvement and education about water quality and habitat restoration. However, the flood served as a focal point, prompting more public involvement than the project team had originally envisioned.

Project Coordinator

Jim Wilcox
Trout Unlimited
3322 104th SW
Olympia, WA 98502

(206) 352-7988

Project Timeline

1989-1991

Methods

- Producing a broadcast-quality video and an educational brochure about pollution levels, flood considerations and storm drain locations and their effectiveness in Indian Creek.

Results

- More than 1,000 people were directly involved in stream restoration and protection.
- Information from this project will help guide efforts to control flooding by rerouting Indian Creek.

Notes

The hope of restoring spawning habitat along Indian Creek was dashed during a major flood as this project was getting underway. The "failure" reminded all participants of the fragility of habitat resources — even when our intentions are good. Participants' frustrations were rechanneled into other strategies including those that emphasized the prevention of habitat loss in the first place.

Recreational Diver Education

Sponsor

Underwater Society of the Pacific Northwest

PIE Funding

$ 8,100

Additional Resources

Volunteer staff time

Target Audience

Puget Sound divers and other individuals, agencies and groups interested in creating artificial reefs and underwater marine parks.

Area Covered

Soundwide

Purpose

- To educate recreational divers about the effects of their activities and suggest ways to lessen individual impacts to subtidal habitats.
- To identify possible sites for artificial reef creation to relieve the effects of overuse in certain existing areas.

Products

Puget Sound Recreational Divers Survey.

A Life of its Own

Results from the survey have been used by the Washington State Department of Fisheries and the Northern Straits Marine Sanctuary program of the National Oceanic and Atmospheric Administration.

Audience response

"The survey told us that, basically, recreational divers weren't too keen on restricting access to divers in order to protect the environment at certain sites. However, most—a total of 166 divers—were strongly supportive of placing some restrictions on hunting or harvesting in certain areas. Even more divers favored the protection of particular species through the placement of restrictions on harvesting."

—Laura Geselbracht, project team leader

Project Coordinator

Laura Geselbracht
Underwater Society of the Pacific Northwest
P.O. Box 418
Seahurst, WA 98062

Project Timeline

1990-1991

Recreational Diver Education, continued

Methods

- Surveying recreational divers and dive boat operators in Puget Sound on favorite diving sites, types of activities pursued and perceptions of cumulative impacts of diving activities.
- Producing a report with survey results to educate the target group about impacts to marine ecosystem from diving activities.

Results

- Four hundred and seventy-five copies of the survey results have been circulated to the target audience.
- Ten presentations on survey results were given to more than 160 members of diving clubs.

Notes

Like many other recreational uses of the environment, diving presents potential problems and opportunities for habitat protection. Overuse of critical reef sites and harvest of reef-dwelling fish are some of the problems. A knowledgeable, highly skilled and dedicated constituency for underwater habitats is an opportunity habitat protection.

ROSARIO BEACH:
Protecting the Marine Ecosystem

SPONSOR

Fathom That! Creations

PIE FUNDING

$ 21,000

TARGET AUDIENCE

Visitors to Rosario Beach.

AREA COVERED

Deception Pass State Park

PURPOSE

To educate local school children, divers and park visitors about the fragile nature of the rocky shore habitat at Rosario Beach in Deception Pass State Park.

PRODUCTS

- A two-paneled kiosk of interpretive materials.
- *Exploring the Rocky Shore at Rosario Beach* interpretive brochure.
- *Turning the Tide at Rosario Beach* middle school curriculum.
- Diver education program: *Sea What?*
- *A Closer Look* slide program for divers.

UNEXPECTED OUTCOME

Washington State Parks and Recreation rangers have installed signs at the beach reading "Protected Site—Do Not Disturb."

PROJECT COORDINATOR

Judy Friesem
Fathom That! Creations
2593 Hastings Ave. W.
Pt. Townsend, WA
98386

(206) 385-5582

PROJECT TIMELINE

1990-1991

Rosario Beach: Protecting the Marine Ecosystem, continued

Methods

- Producing a multi-level educational program, including a kiosk of interpretive materials, an illustrated brochure, a slide presentation and hands-on activities for Rosario Beach visitors.

Results

- Three hundred and eighty people participated directly in the program.
- Students, divers and park visitors wrote the Washington Department of Fisheries and the State Parks and Recreation Commission supporting creation of a marine reserve.
- A teacher's comment about students' attitudes toward the tidepools: "They are very sensitive to taking things off the beach now."

Notes

Puget Sound intertidal communities show remarkable biodiversity. This project, in cooperation with a state park, drew attention to the variety of living things at home in Puget Sound. The method drew its strength from the excitement of "first encounters" to reinforce messages to protect water quality.

SELF-GUIDED DISCOVERY TOURS

SPONSOR

Puget Sounders

PIE FUNDING

$ 9,900

TARGET AUDIENCE

Visitors to Vashon Island's KVI Beach, Mountain Lake on Orcas Island and Larrabee State Park in Whatcom County.

AREA COVERED

Soundwide

PURPOSE

To offer a cost-effective way of providing environmental interpretative information in public places that lack permanent displays.

PRODUCTS

Forty portable displays on the natural and cultural history of Puget Sound.

UNEXPECTED OUTCOME

Interpretive panels have also been placed at the Bellingham Bay Discovery Project to educate the public about hazardous waste sites.

PROJECT COORDINATOR

Arnie Klaus
Puget Sounders
P.O. Box 4112
Bellingham, WA 98227

(206) 676-8094

PROJECT TIMELINE

1990-1991

Methods

- Identifying 40 Puget Sound ecosystem topics for interpretive displays.
- Engaging schools, colleges, governments and community agencies and organizations in the design and review process.
- Designing and building over 40 portable, weatherproof signboards interpreting various facets of the Puget Sound ecosystem, including human interaction.
- Installing signboards at three Puget Sound parks.
- Presenting displays at special events (for example, various beach cleanups and Lake Whatcom Day).

Results

- Signboards and displays have been seen by more than 1,500 people.

Notes

Effective interpretation connects a place to a viewer and an idea. In this project, an assortment of portable panels were created, carrying important ideas about water quality and habitat. Organizations who want to use interpretive techniques for environmental education events rent the panels and install them where the ideas they represent are illustrated by the place. They form a cost-effective way of using interpretive signing techniques for short-lived educational events.

SHELLFISH AND THE SOUND:
Past, Present and Future

SPONSOR

Pacific Coast Oyster Growers Association

PIE FUNDING

$ 16,000

ADDITIONAL RESOURCES

In-kind services and costs of reproducing tapes, slides and brochures from the Pacific Coast Oyster Growers Association.

TARGET AUDIENCE

Shellfish growers, diggers and consumers, restaurants, members of civic and environmental organizations, boaters, landowners, public health workers, elected officials and students.

AREA COVERED

Soundwide

PURPOSE

To demonstrate the relationship between healthy shellfish and clean water in Puget Sound.

PRODUCTS

- Portable display.
- *Shellfish in Puget Sound* video.
- *Shellfish in Puget Sound* slide show.
- Brochures.

PROJECT COORDINATOR

Tim Smith
Pacific Coast Oyster Growers Association
1023 S. Adams #129
Olympia, WA 98501

(206) 459-2828

PROJECT TIMELINE

1990-1991

Shellfish and the Sound, continued

Methods

- Developing a traveling exhibit, a video and a live shellfish display tracing the historical impact of water quality degradation on the Sound's naturally occurring and commercially farmed shellfish resources.
- Assessing the current water quality status in shellfish growing and harvesting areas by identifying various types of pollutants that threaten the Sound's commercial and recreational shellfish resources.
- Exploring ways of protecting the Sound's commercial and recreational shellfish resources through public education and involvement.

Results

- The display, slide show and video were in high demand from businesses and other organizations.
- The Pacific Coast Oyster Growers Association established a "water quality fund" from proceeds raised at Seattle oyster bars.

Notes

Living indicators — like fish, shellfish and wildlife — can tell us a great deal about the quality of our water. In this project, native and introduced shellfish and their habitat were used to show the history of water quality problems and solutions in Puget Sound. In addition to their intrinsic and nutritional value, these animals offer very valuable lessons about what is at stake when water quality suffers.

Student Education and Stewardship

Sponsor

Peninsula School District and Kopachuck Middle School

PIE Funding

$ 2,900

Additional Resources

In-kind staff contributions of $ 1,300.

Target Audience

Students in sixth to eighth grades.

Area Covered

Peninsula School District

Purpose

- To assess and improve stream habitat in Dickson Creek.
- To teach principles of ecology and hydrology through a process of field-based investigations and problem solving.

Products

- Computer disk with resources for teachers.
- Environmental bookmarks.

A Life of its Own

The Point Defiance Zoo and Aquarium asked the groups to design and produce an environmental bookmark, which is now included with book purchases at the Aquarium.

Audience Response

"We mapped the stream and planted the salmon, and we taught the 4th graders about the food web. I thought it was pretty cool that we could make a difference."

—Kirsten Digmann, seventh grader at Kopachuck

Project Coordinator

John Valentine
c/o Kopachuck Middle School
10414 56th St. NW
Gig Harbor, Wa 98403

(206) 265-3392

Project Timeline

1992-1993

Methods

- Using models developed by the U.S. Environmental Protection Agency's Streamwalk program, Oregon's Stream Scene and Washington's Adopt a Stream organization.
- Working with the Peninsula Neighborhood Association and the South Rosedale Chapter of the Washington State Fisheries Coop to restore Dickson Creek and Sylvia Lake.
- Monitoring the return of crayfish and caddishly larva in the south branch of Dickson Creek, following the recent cessation of algicide use in Sylvia Lake.
- Conducting a workshop for teachers.
- Having students share their newly acquired knowledge with elementary students at Voyager and Artondale Elementary Schools.
- Producing a computer disk with resources for introducing educators to the concepts of streamkeeping.

Results

- Fifty-five middle school and 120 elementary school students collected data on water quality, macroinvertebrates and salmon and wildlife habitats.
- The students restored salmon habitat in Dickson Creek and planted willows to stabilize its banks.
- Other teachers in the district showed interest in developing similar projects as a result of the teacher training.

Notes

Teaching about habitats is one thing. Instilling values of care and techniques of stewardship is another. Ironically, it is the action that is the best teacher "about" the environment. It is also the thing that teaches students the most "about" themselves and their latent power to improve their world.

Water Quality Learning at Greywolf Elementary School

Sponsor

Clallam County Department of Community Development, Water Quality Office

PIE Funding

$ 28,000

Additional Resources

$ 10,200 from the Washington Department of Wildlife, U.S. Fish and Wildlife Service and North Olympic Salmon Coalition.

Target Audience

Students, parents, faculty and staff at Greywolf Elementary School and community members.

Area Covered

Matriotti Creek and the Dungeness River watershed.

Purpose

- To foster water quality and habitat awareness among children and adults in the Dungeness River watershed.
- To create a water quality learning center and ongoing educational program at Greywolf Elementary School on Matriotti Creek.

Products

A permanent environmental education learning station on the school grounds.

Hands-On Education

"Being able to get down to the water, to see it up close, to work in and around the stream will be invaluable in developing awareness among participants."

—Claire Rogers, coordinator for the Matriotti Creek Community Educational Learning Area

Project Coordinator

Claire Rogers
Clallam County Department of Community Development
Water Quality Office
223 E. Fourth St.
Pt. Angeles, WA 98362

(206) 683-2037

Project Timeline

1991-1993

Water Quality Learning at Greywolf Elementary, continued

Methods

- Providing hands-on water quality and habitat education in the Dungeness River watershed.
- Installing signs that describe the relationship of Matriotti Creek to other neighboring water bodies, including Puget Sound.
- Enhancing physical and biological characteristics of Matriotti Creek through streamside plantings, land stabilization and restocking with juvenile salmon.

Results

- Nine hundred people were involved in restoration activities and workshops.
- A 1,500 foot stretch of Matriotti Creek was restored as salmon and trout habitat, including the school site and adjacent properties.
- A school board representative attended a land use hearing, voicing concern about water quality impacts from a proposed upstream development.
- The project is being viewed by many area property owners as an attractive example for their own property.

Notes

Teaching about the importance of habitat protection must be accompanied by "doing." In this project, the community mobilized to restore fish habitat and create an environmental learning center adjacent to a new elementary school. Inspired and energized by that project, neighboring landowners volunteered to restore their reaches of the stream. What began as an effort to "teach kids" became a successful learning experience for the whole community.

Water Quality Video and Stream Restoration

Sponsor

City of Issaquah

PIE Funding

$ 29,600

Additional Resources

In-kind services of $ 18,000 from city staff and high school teachers; plant material donated by nurseries.

Target Audience

Residents, middle school students and service, business and professional organizations of the Issaquah Creek watershed.

Area Covered

Issaquah Creek watershed

Purpose

- To inspire feelings of community ownership and responsibility for local and regional water resources.
- To incorporate historical, scientific and aesthetic perspectives in this approach.

Products

- *City of Issaquah Water Quality* video.
- Color-it-yourself stream poster.

Unexpected Outcome

The PIE-funded video was incorporated into the middle school curriculum of the Issaquah School District. At the request of district teachers, a handbook is being compiled to effectively integrate the video into the curriculum.

Project Coordinator

Maggie Downey
City of Issaquah
P.O. Box 1307
Issaquah, Wa 98027

(206) 391-1000

Project Timeline

1989-1991

Water Quality Video and Stream Restoration, continued

Methods

- Bringing senior citizens, historians and environmentalists from the community together with high school students to raise awareness of water resources.
- Developing and presenting a video for student and community groups.
- Producing an educational color-it-yourself poster.

Results

- The fish and wildlife habitat of Issaquah Creek was enhanced by the addition of native shade trees and fruit-bearing plants.
- An educational video and a poster of the creek, wetland plants, riparian habitat, gravel bars and other features are available to Issaquah residents and teachers.

Notes

Towns can be the cause of habitat loss; they can also provide forces to reverse the negative effects of development. In Issaquah, the city, working with schools and senior citizen organizations, restored a major section of Tibbett's Creek. That legacy lives on — Issaquah now celebrates "Salmon Days" every year as a community event that everybody shares in.

Involving the Public in Water Quality Decisions

In each aspect of water quality, there is a place for our active participation. Preventing nonpoint and storm-water pollution requires changing our personal habits. Protecting wetlands and habitats may involve hands-on work to restore and repair damaged ecosystems. In many areas, however, acts of citizenship can make the difference. This means participating in the democratic processes by which our society's values are transformed into the actions of our local, tribal, state and federal governments.

Such actions include the adoption of laws and local ordinances, the creation of administrative programs and the approval and denial of permit applications. This involves compromise, agreement, negotiation and testimony to find solutions that reflect the best available outcome from mixed interests and agendas. It reflects the democratic process in action – that messy, inefficient, unending public debate where differences get settled in public hearings and appeals, hard-nosed negotiation, ad hoc task forces and committees.

Public involvement isn't just the political stuff either. In some cases, it involves doing things we've previously left for experts. For example, collecting data upon which public decisions will be based and explaining the environmental principals behind the regulations. We can participate on our own or through organizations and associations.

Educating for public involvement often means revealing the intricacies of technical or governmental processes to the citizens they are supposed to serve. When citizens have the knowledge and skills to participate, the processes themselves often change. Experts learn to listen. Decisions take in broader concerns and better reflect the common sense of ordinary people.

The following PIE projects take on a variety of strategies to "re-democratize" water quality issues. Each finds new strategies for opening dialogues between citizens and their representative governments – and among themselves – so that the agreements needed to achieve and assure clean water evolve in an open process.

Key Audiences for Public Involvement Projects

PUBLIC
Including community groups and families, retired volunteers and recreationists

HOMEOWNERS
Including landlords, tenants and landowners

BUSINESSES
Theatres, marine industries, printers and designers, manufacturers, auto repair shops

GOVERNMENT
City and county government agencies

SCHOOLS
Teachers and students

YOUTH
Including youth organizations such as Boy Scouts, Cub Scouts, Earth Service Corps

BOATERS
Including scuba divers and fisheries

Look for these symbols in each of the PIE project descriptions to find out which audiences the project coordinators targeted.

Key Strategies for Involving the Public

- ❑ Workshops
- ❑ Guidebooks
- ❑ Newsletters
- ❑ Videos
- ❑ Field trips
- ❑ Brochures

A Water Quality Module for the Shortcourse in Local Planning

Sponsor

Planning Association of Washington

PIE Funding

$ 22,000

Additional Resources

$ 2,000 to assist in the production of training aids.

Target Audience

Local planners, planning commissioners, elected and appointed officials, developers and the public.

Area Covered

Soundwide

Purpose

- To educate the target audience on the relationship between land use decisions and water quality.
- To facilitate actions, particularly those involving planning or regulatory measures that local government can take to protect water resources.

Products

- *We All Live Downstream: A Shortcourse in Water Quality Protection* manual.
- *Water is Life* slide show.

Project Coordinator

Bob Burke
c/o McConnell/Burke
11000 NE 33rd Place
Suite 101
Bellevue, WA 98004

(206) 632-5432

Project Timeline

1990-1991

Methods

- Developing a water quality curriculum and training aids to be added to the Shortcourse in Local Planning—an ongoing education program previously developed by the Planning Association of Washington.
- Presenting a pilot training session to project facilitators, enabling them to use the curriculum.
- Presenting a pilot shortcourse to local elected officials, developers, citizen activists, planners and planning commission members.

Results

- An 87-page manual with six chapters and appendices was created.
- Fifteen facilitators were trained.
- Parts of the program have been updated to include growth management planning.

Notes

This project built on an existing training program for local officials, planning commissions, planning staff and other interested citizens. By including a water quality segment in an ongoing training program, it "piggy-backed" water quality on other key areas of land use planning.

ACT GREEN

SPONSOR

Theatre in the Wild

PIE FUNDING

$ 16,366

ADDITIONAL RESOURCES

The Municipality of Metropolitan Seattle (Metro) provided funds to produce 50 additional copies of the manual created by Theatre in the Wild. In-kind donations of printing and artwork totalling $ 5,488 were also obtained.

TARGET AUDIENCE

Actors, directors, playwrights, theatre educators and technicians, administrative personnel, board members, volunteers, set and costume designers, and other personnel of theatre organizations.

AREA COVERED

Seattle and Tacoma theatre communities.

PURPOSE

To inspire and nurture an ecological ethos that promotes responsible practices, environmental consciousness and commitment among theatre professionals that exceeds compliance with external requirements.

PRODUCTS

- *Greening Up Our Houses: A Guidebook to an Ecologically Sensitive Theatre Organization* manual.
- *Theatre in an Ecological Age* brochure and conference materials.

PROJECT COORDINATOR

Larry Fried
Act Green
9758 Arrowsmith Ave. South
Seattle, WA 98118

(206) 722-6148

PROJECT TIMELINE

1991-1993

Act Green, continued

Methods

- Convening a conference to educate theatre professionals about environmental stewardship.
- Writing, publishing and distributing a manual with information about theatre products and practices, their effects on water quality and specific actions that curtail water pollution.
- Presenting theatre pieces (such as Theatre in the Wild's previous PIE-funded play *Dance the Dragon Home* and the publication *Voices of Puget Sound*, also produced with previous PIE funds) to encourage professionals to apply ecological ethics to theatrical performances, practices and products.

Results

- One hundred and sixty-five theatre professionals from seven states attended the November 1991 conference, participating in a three-day program of workshops, presentations and group discussions.
- One hundred free copies of the 143-page manual were distributed to major theatres and college drama departments in the Puget Sound area, as well as many smaller theatres and support organizations.

Notes

Theatre, like other art forms, can be a potent medium for communicating about the environment, challenging audiences to think about and act on important issues. In addition, theatres are businesses and workplaces where water quality can be influenced through a wide range of craft activities and management principles. This project spoke to theatre professionals about their involvement — as managers, playwrights, actors, costume artists, set designers and directors — in protecting Puget Sound.

BEACH WATCHERS

SPONSOR

Island County with Washington State University Cooperative Extension.

PIE FUNDING

$ 39,400

ADDITIONAL RESOURCES

$ 15,000 in matching funds.

TARGET AUDIENCE

Island County residents and ferry travelers.

AREA COVERED

Island County and the Anacortes-Friday Harbor and Keystone-Port Townsend ferry runs.

PURPOSE

- To involve the existing WSU Beach Watchers program in the effort to enhance understanding of water quality issues in Puget Sound.
- To foster a local stewardship ethic that will result in long-term protection of Puget Sound and the various Island County watersheds.

PRODUCTS

- *WSU Beach Watcher's Guide to Successful Beach Field Trips* teachers' packet.
- *Developing a Volunteer Program for Environmental Education of the Public* training manual.

A LIFE OF ITS OWN

Funded by the Department of Ecology and donations from Nalley's Fine Foods, Texaco and other corporations and agencies, the Beach Watchers program will continue to operate in Island County.

UNEXPECTED OUTCOME

Requests for copies of the PIE-funded products have come from the Gulf of the Farallones Marine Sanctuary in California and the Reno, Nevada, Cooperative Extension.

PROJECT COORDINATOR

Don Meehan
WSU Cooperative Extension
P.O. Box 5000
Coupeville, WA 98239

(206) 679-7327

PROJECT TIMELINE

1991-1993

Beach Watchers, continued

Methods

- Broadening the WSU Beach Watchers volunteer training course to include such topics as marine biology, shoreline regulations and communication skills.
- Developing and coordinating a volunteer service program for the participants, involving at least 50 hours of service by each volunteer.
- Developing a Ship's Naturalist Program of 10-, 20-, and 30-minute sessions for the San Juan Islands and Keystone/Port Townsend ferry crossings.

Results

- More than 100 hours of classes were offered to 20 students over an eight-week training period.
- Volunteer projects included stream restoration, beach walks, school programs and the re-opening of an interpretive center at Fort Casey State Park.
- Ship's Naturalist programs on natural and cultural history and water quality issues were led by project-trained volunteers from April to June 1993. An estimated 20,000 people were reached through this aspect of the project.

Notes

Like "Kitsap Water Watchers," Island County "Beach Watchers" builds on models of volunteer training and stewardship. "Beach Watchers" developed a ship's naturalist program of volunteers making water quality and Puget Sound natural history presentations aboard Washington State Ferries.

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Business and Environmental Partnerships for Puget Soundkeeping

Sponsor

Puget Sound Alliance

PIE Funding

$ 21,428

Target Audience

Automotive business owners and operators.

Area Covered

Tacoma

Purpose

- To enhance business and industry understanding of policy formation and enforcement of the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) and the elements of the Puget Sound Water Quality Management Plan.
- To instill a sense of stewardship for Puget Sound that stresses cooperation and collaboration between businesses and environmental organizations.

Products

A Water Quality Resource Manual for the Automotive Service Industry, including three case studies of specific shops.

Unexpected Outcome

The Automotive Service Association of Washington has printed 8,000 copies of the studies and will distribute them statewide.

Audience Response

"Site specific assistance is great. Just don't stuff regulations down the throats of the business owners that are willing to comply and willing to work within the system. Work improvements in gradually to minimize economic impact."

—Frits Akker, A.I.R. Imports

Project Coordinator

Katy Vanderpool
Puget Sound Alliance
130 Nickerson
Suite 107
Seattle, WA 98109

(206) 286-1309

Project Timeline

1992-1993

Business and Environmental Partnerships, continued

Methods

- Developing technical assistance to encourage businesses in automotive service fields to become cooperative participants in the protection of Puget Sound.
- Providing consultation and technical assistance to automotive collision, mechanical and radiator repair services.
- Recognizing the achievements of local businesses in environmental waste management.

Results

- The project's direct result was that the three businesses profiled in the case studies adopted new measures to protect water quality. Through the manual, their success will be shared with others in the automotive services industry.

Notes

Bridges between environmentalists and businesses are essential to the health of Puget Sound. By opening a dialogue, the Puget Sound Alliance and automotive service businesses around Commencement Bay showed that each "side" had something to offer the other and that by collaborating, they could find common solutions to water quality problems.

CHILDREN OF THE SOUND

SPONSOR

Resource Institute

PIE FUNDING

$ 9,750

ADDITIONAL RESOURCES

$ 5,200 in donated staff time, plus printing valued at $ 600.

TARGET AUDIENCE

Teachers and young adults working with at-risk children (learning disabled, behavior disordered, specially challenged, cultural minorities and other individuals who may be more likely to drop out of school).

AREA COVERED

Soundwide

PURPOSE

- To provide learning tools for a population that traditionally has been perceived as being uninterested in environmental issues.
- To encourage young people to believe that the benefits of clean water and a healthy environment are everyone's right and responsibility.

PRODUCTS

Enhanced *Children of the Sound* curriculum and resource packet.

AUDIENCE RESPONSES

"This workshop was very helpful to me as an inexperienced educator. It has given me ideas of how to bring other disciplines into science. I think my class will be a lot more fun because of this workshop."

"The relevance of the topic provided me with a chance to reflect on reconnecting with the Earth as I pondered how this will work for kids."

—Workshop participants

UNEXPECTED OUTCOME

Five schools have requested additional in-school training.

PROJECT COORDINATOR

Lela Hilton
Resource Institute
6532 Phinney Ave. N.
Building B
Seattle, WA 98103

(206) 784-6569

PROJECT TIMELINE

1992-1993

Children of the Sound, continued

Methods

- Expanding and building on the *Children of the Sound* curriculum (developed under a previous PIE contract), which emphasizes experiential, multidisciplinary learning—with art, music, math, science and social studies based in Northwest Coast culture and natural history.
- Recruiting, through direct mail and press releases, teachers and youth service workers who work with disadvantaged youths.
- Introducing teachers and youth service workers to environmental education through *Children of the Sound*.

Results

- A three-day training workshop was attended by 25 teachers, who learned, through field trips, discussion groups and experiential activities, how to incorporate the *Children of the Sound* curriculum into regular classroom activities.

Notes

How you define at-risk youth depends on many factors. Program leaders in this project felt that youth who are considered at-risk based on various educational, social or medical criteria are definitely "at risk" of being excluded from environmental decisions that will affect their lives. Guided by social workers, educators and others with insight into this broad range of disadvantaged youth, they introduced the environment and, specifically, clean water as a subject that can kindle excitement and hope in their lives and also as a resource that needs each individual's unique contribution in order to be protected.

Choices for Clean Water

Sponsor

North Olympic Environmental Resource Center

PIE Funding

$ 20,000

Additional Resources

100 volunteer hours

Target Audience

- Individuals, organizations, agencies and policymakers involved in growth management.
- Landowners who are interested in or will be affected by the Growth Management Act.
- Community residents who are interested in water quality and would like to be involved in the growth management process.

Area Covered

East Jefferson County

Purpose

- To provide individuals with information that they can use to get involved in Jefferson County growth management and land use decisions.
- To enable local residents to participate knowledgeably in the preservation and protection of their environment for a sustainable future.

Products

- Display panels for use in various public locations.
- *Jefferson County Water Quality: The Choice is Ours* brochure.
- Action notebooks for the water quality workshop.

Unexpected Challenge

The changing political landscape in east Jefferson County and some citizens' perceptions that water quality issues get too much attention made public response less favorable than anticipated.

Unanticipated Result

Some of the key players in the property rights movement got involved in the workshops and field trip.

Project Coordinator

Bob Crowley
North Olympic Environmental Resource Center
P.O. Box 950
Port Townsend, WA 98368

(206) 385-4214

Project Timeline

1992-1993

Methods

- Compiling educational materials that impart knowledge and necessary skills for water quality and habitat protection.
- Hosting a workshop and field trip to educate the community about watershed functions, how to avoid negative effects and how the Growth Management Act process relates to water quality.
- Producing a brochure on workshop topic areas, with a map of a hypothetical watershed, discussion of nonpoint pollution and a description of best management practices for farmers and homeowners.
- Developing a lending network of reference materials for the dissemination of technical information.

Results

- Observation of participants during the workshop and especially the field trip indicated that differing views were being listened to and better understood. Several participants indicated that they now have a better understanding of views that they previously considered in opposition to theirs.
- Project leaders were able to overcome a general feeling among community residents that their efforts would not have any effect on land use decisions. This was done by drawing on some moderate voices on both sides of the debate.

Notes

Local governments, particularly in rural areas, are critically understaffed for public involvement programs. North Olympic Environmental Resource Center developed workshops and resource materials to help integrate water quality measures into local land use planning — thus filling a crucial gap in public involvement in Jefferson County.

Citizen Monitoring Guide

Sponsor

Envirovision

PIE Funding

$ 18,000

Target Audience

Teachers, junior high school students, citizens and staff responsible for citizen monitoring projects.

Area Covered

Soundwide

Purpose

To inform citizens about the value and process of water quality monitoring through an educational manual.

Products

Citizen's Guide to Water Quality Monitoring, describing the ecology of lakes and streams and the importance, function and interpretation for eight monitoring parameters: pH, dissolved oxygen, total suspended solids, nutrients, temperature, bacteria, secchi depth, transparency and flow.

Unexpected Challenge

The project team found that presentation of technical information in an interesting and accessible way required more graphics and text than anticipated, therefore almost doubling the size of the publication and staff time to complete the contract.

Project Coordinator

Joy Michaud
Envirovision
2512 Division St. NW
Olympia, WA 98502

(206) 754-1644

Project Timeline

1990-1991

Citizen Monitoring Guide, continued

Methods

- Developing a water quality monitoring guide that defines the difference between educational monitoring and official data base monitoring and explores the need and opportunities for each.

Results

- Publication of this book was delayed until 1992. Three hundred copies were printed and distributed to organizations, agency programs and individuals who conduct citizen monitoring programs.

Notes

Water quality monitoring has traditionally been reserved for professionals trained in techniques for accurate sampling and data collection. Yet the cost of monitoring itself often precludes collection of baseline data and ongoing pulse-checking of a given body of water. Given proper training, volunteers and other interested lay people can handle even highly technical tasks. In this way, citizens are sensitized to water quality and see the effects of harmful and beneficial practices upstream. At the same time, local governments, tribes and other public agencies can tap into a valuable source of cost-effective human resources.

Clean Water Network

Sponsor

Sierra Club, Cascade Chapter

PIE Funding

$ 20,000

Target Audience

Water quality activists and the general public.

Area Covered

Soundwide

Purpose

- To educate the public about the National Pollutant Discharge Elimination System (NPDES) permitting process.
- To involve the public in reviewing NPDES permits.

Products

- *Citizen's Point Source Handbook: A Step-By-Step Guide to NPDES Permit Review.*
- *An Introduction to Citizen Involvement in the NPDES Permitting Process* slide show.

Unexpected Challenge

Changes in the Washington Department of Ecology's role in the NPDES program made it difficult for regional groups to get accurate information on permits and processes. Midway through the project, the release of a critical State Efficiency Commission Report put many things on hold and pushed citizen involvement in the NPDES program lower on Ecology's agenda.

A Life of its Own

The handbook is being used for the Soundkeeper training program and also as a textbook by Dr. Estelle Leopold at the University of Washington.

Project Coordinator

Bruce Wishart
Sierra Club
Cascade Chapter
2631 12th Court SW
Suite A
Olympia, WA 98502

(206) 754-2386

Project Timeline

1989-1991

Clean Water Network, continued

Methods

- Organizing regional groups to gather information and review permits of dischargers in their areas.
- Convening a technical advisory committee to provide advice to the activists and establish a consistent set of standards for all permits reviewed.
- Submitting comments on pending NPDES permits.
- Producing a handbook and slide show on public participation in the NPDES permit program.

Results

- A training course was developed. 60 copies of the handbook and slide show were produced and 55 people took part in a series of pilot projects around the Sound.
- An active technical advisory committee reviewed permits and made recommendations to regional groups for actions needed and provided recognition of well-written permits.
- Several regional groups of activists were mobilized.
- Information from the Network served as a basis for subsequent PIE-funded projects and proved useful to other environmental groups and state agencies.

Notes

Nothing discourages citizen participation in decision-making more than technical complexity. When discharge permit decisions are based on information that few understand, few participate. This project broadened the permit review process by providing citizen groups with a working knowledge of what is involved in permitting individual dischargers.

Mid-Sound Spill Response Education Project

Sponsor

Northwest Emergency Management Association

PIE Funding

$ 25,000

Additional Resources

$ 8,000 from local fire departments for additional training.

Target Audience

Industrial workers in various small- and medium-sized construction and electronic manufacturing companies (200-500 employees).

Area Covered

King, Snohomish, Island, Skagit, and Whatcom counties.

Purpose

To educate industrial workers in preventing, detecting, responding to and reporting releases of petroleum or other materials detrimental to water quality.

Products

Curriculum for Hazardous Materials Specialist Program.

A Life of its Own

The curriculum has been incorporated in hazardous materials handling and management courses, offered through Shoreline, Edmonds and South Seattle community colleges.

Project Strategy

"Rather than selling emergency response to local politicians, who are reluctant to commit budgets for hazmat, we are selling day-to-day education and services required for smart environmental management and its political benefits."

—Jim Wright

Project Coordinator

Jim Wright
Northwest Emergency Management Assn.
1321-N SE Everett Mall Way, Suite 244
Everett, WA 98203

(206) 355-2745

Project Timeline

1989-1991

Mid-Sound Spill Response Education Project, continued

Methods

- Replicating the response model developed by Islands Oil Spill in Round I of the PIE Fund (as described in *Public Involvement and Education Model Projects Fund: 47 Success Stories from Puget Sound*).
- Developing a curriculum to enhance "worker right-to-know" training with an added component on water quality-related concerns.
- Presenting workshops for fire department employees to upgrade response capabilities.

Results

- Seven hundred industry employees were trained on work-site regulations and water quality concepts and issues.
- Volunteers from Lynnwood, Montlake Terrace and Snohomish County fire departments were trained to the technician level as defined in federal regulations, thus increasing response capabilities and effectiveness.
- A curriculum was developed for ongoing hazardous materials training.
- Greater willingness to comply with federal hazardous materials regulations and better coordination among various agencies, fire departments and companies now exist.

Notes

The initial response to an oil or hazardous material spill often makes or breaks any subsequent efforts to prevent or contain environmental damage. In this project, workers in crucial industrial sectors were trained on their potential roles, working in coordination with "official" responders like fire departments.

NPDES Workshops

Sponsor

People For Puget Sound

PIE Funding

$ 12,764

Target Audience

General public, agency staff and industry representatives.

Area Covered

Soundwide

Purpose

To further meaningful and informed public involvement in the National Pollutant Discharge Elimination System (NPDES) permit program by helping participants understand the importance of the Wastewater Discharge Program in protecting Puget Sound.

Products

- *Down the Drain: A Citizen's Guide to Wastewater Discharge Permits in Puget Sound* handbook.
- *NPDES Action Alerts.*
- Articles on the NPDES program.

Unexpected Challenge

The project team experienced difficulty focusing the agenda, which most felt was overly ambitious in scope. The challenge, according to Naki Stevens, became "narrowing the agenda to one which would not overwhelm the participants and yet would guarantee success within our limited schedule." To resolve this problem, efforts were made to beef up the handbook, and enhance workshop presentations with written text.

Project Coordinator

Naki Stevens
People for Puget Sound
P.O. Box 2807
Seattle, WA 98111

(206) 382-7007

Project Timeline

1991-1993

NPDES Workshops, continued

Methods

- Preparing training materials on the NPDES program, including background information on existing laws, regulations and permit requirements.
- Holding NPDES workshops at a pulp mill, sewage treatment plant, public port marina and an oil refinery.
- Training citizens on reviewing permits, monitoring permitholders' compliance, enforcement by federal and state agencies, and other aspects of the permit program.
- Notifying People for Puget Sound members of permit activities at various locations around the Sound.
- Sending *NPDES Action Alerts* to workshop participants and People for Puget Sound members.
- Featuring articles on the NPDES program in the People for Puget Sound newsletter.

Results

- Eighty-seven citizens, six Ecology representatives and six facility representatives attended the workshops. An additional 12,000 People for Puget Sound members read about the project and the NPDES program in the group's *Sound & Straits* newsletter.
- Two hundred and fifty copies of the *Down the Drain* handbook were produced and distributed to participants and project advisory committee members.
- Many tangible methods for improving the NPDES program emerged from the workshops.

Notes

The jargon of "regulatese" baffles most of us straight into inactivity. This project demystified the regulatory process involving large industries and municipal sewage treatment plants. The assumption: the more people participate in decisions regarding siting, permitting and monitoring of these facilities, the better the quality of their discharged water.

Paralytic Shellfish Poisoning Monitoring

Sponsor

Adopt a Beach

PIE Funding

$ 25,000

Target Audience

Students, shoreline residents, Cub Scouts, community groups.

Area Covered

Beaches in Whatcom, San Juan, King, Pierce, Kitsap and Jefferson counties.

Purpose

To recruit and train a network of citizen volunteers to collect shellfish samples at recreational beaches, thus enhancing the state's existing Paralytic Shellfish Poisoning (PSP) monitoring programs.

Products

- Instructional packet for volunteers on PSP monitoring.
- Thirteen issues of *The Red Tide Newsletter* with month-by-month data summaries.

Unexpected Challenge

Some volunteers would skip a collecting day or discontinue collecting without notifying Adopt a Beach, resulting in gaps in the PSP database. An improved reporting system developed by the state Department of Health and the project team allowed prompt response to these lapses.

Unexpected Challenge

In counties with limited funds for PSP monitoring, health department staff learned to rely on volunteers to monitor additional sites and to assume additional responsibilities.

Project Coordinator

Ken Pritchard
Adopt a Beach
P.O. Box 21486
Seattle, WA 98111

(206) 624-6013

Project Timeline

1987-1991

Paralytic Shellfish Poisoning Monitoring, continued

Methods

- Identifying beaches for sample collection.
- Recruiting, educating and training volunteers.
- Coordinating the timely delivery of all samples to the state shellfish lab in North Seattle.

Results

- The project team recruited over 100 volunteers and 23 organizations to monitor 32 Puget Sound beaches.
- Twenty training sessions were conducted for volunteer monitors.
- Volunteer monitors collected 538 samples, contributing important information about local shellfish resources for the state Department of Health's Red Tide Hotline.
- Fifteen public presentations were given, hundreds of flyers distributed and numerous press releases and articles about the program placed in newspapers around the Sound. Over 5,000 people were indirectly reached through these means.
- In addition to collecting shellfish samples, project volunteers participated in Coastweeks and other public education events, reported clam kills and unusual sightings to the Department of Fisheries and volunteered to sample phytoplankton for researchers at the University of Washington.

Notes

In Seniors for the Sound (page 191), a trained, centrally-located "swat team" of citizen monitors was fielded in sites all over Puget Sound. In this program, local groups were trained to perform shellfish poisoning monitoring on beaches close by. This program proved so successful that it has been adopted by Washington Department of Health as an integral part of its ongoing monitoring program.

PROJECT BRIDGE:
Monitoring Stream Quality in Developing Areas

SPONSOR
Seattle University

PIE FUNDING
$ 18,000

ADDITIONAL RESOURCES
$ 5,000 from the U.S. Environmental Protection Agency, plus $ 20,000 from the Clare Booth Luce Foundation to underwrite one paid staff position.

TARGET AUDIENCE
Eighth grade minority girls.

AREA COVERED
Seattle

PURPOSE
- To educate a cadre of student leaders in Seattle's minority community to take personal action to protect water quality.
- To stimulate interest in science, engineering and environmental careers among minority young women in Seattle's middle schools.

PRODUCTS
- Slides and video presentations.
- Mini-reports on data.

A LIFE OF ITS OWN
Funded by a three-year grant from the National Science Foundation, this project will be incorporated in the "Math and Physics of Water" program at Seattle University.

AUDIENCE RESPONSE
"I never really liked bugs. The science we do at school is boring. This is fun."

—Carolyn Davis, eighth grader

PROJECT COORDINATOR
Kathleen Sullivan
Seattle University
Broadway & Madison
Seattle, WA 98122

(206) 296-5931

PROJECT TIMELINE
1992-1993

Project Bridge, continued

Methods

- Providing 25 eighth grade girls with classroom, laboratory and field experiences directed by professional scientists and engineers.
- Gathering water samples at field sites on North Creek in suburban Seattle.
- Analyzing samples for contaminants characteristic of development and agricultural runoff and recording data in lab notebooks.
- Cleaning up debris at the sites.
- Producing a video about the project to reinforce concepts for the participants and to enable them to bring their experiences back to their own schools.

Results

- Technical monitoring reports (with maps and data summaries) were presented to the North Creek Watershed Management Committee.
- For "Wrap-Up Day" the girls shared their data and gave presentations on careers in environment and personal environmental responsibility to an audience of parents and teachers.
- The Instructional Media Services department of Seattle University produced a 12-minute video documenting the project.

Notes

The middle school years are a crucial watershed for young women, particularly those in urban, minority communities. This is when, according to the sponsoring educators, these girls accept or reject science and engineering as future education pathways to personal fulfillment. Coached by women professionals, these young women studied water quality in a Seattle stream and learned how to monitor and analyze water quality as well as how to restore stream habitats.

Public Involvement: The Proposed Northern Straits National Marine Sanctuary

Sponsor

Friends of the San Juans

PIE Funding

$ 19,700

Additional Resources

$ 6,000 in donated materials and volunteer help.

Target Audience

Participants at scoping meetings: scuba divers, boaters and representatives of commercial, sports and tribal fisheries, state and local governments, environmental groups, oil companies and other marine-dependent industries.

Area Covered

Study area for the Northern Straits National Marine Sanctuary, including the coastal cities of Bellingham, Anacortes, Sequim, Port Angeles, Port Townsend, Oak Harbor, Friday Harbor and La Conner.

Purpose

- To inform the public about and facilitate involvement in the National Environmental Policy Act review process.
- To evaluate the proposal to create a Northern Straits National Marine Sanctuary.

Products

- *National Marine Sanctuary Program: What's In It for Us?* traveling display.
- Four issues of *Northern Puget Sound National Marine Sanctuary Newsletter.*

A Life of its Own

Exhibit and materials have become permanent parts of the Friday Harbor Whale Museum educational program.

Project Coordinator

Nancy DeVaux
Friends of the San Juans
P.O. Box 1344
Friday Harbor, WA 98250

(206) 378-2319

Project Timeline

1990-1991

Methods

- Replicating the Citizen Action Training School Model developed by Pilchuck Audubon (as described in *Public Involvement and Education Model Products Fund: 47 Success Stories from Puget Sound*).
- Presenting different perspectives on the marine sanctuary issues through a series of workshops and panel discussions.
- Publishing and distributing four issues of a focused newsletter.
- Circulating a questionnaire about the proposed sanctuary at public meetings.
- Designing and building a traveling display on the sanctuary and its ramifications.

Results

- Three hundred people attended the five workshops in Friday Harbor, Mount Vernon, Bellingham, Sequim and Seattle, and over 2,700 people received the newsletter.
- The traveling exhibit has been viewed by an estimated 120,000 people.
- As published in the January 1991 newsletter, 83 respondents to the written questionnaire felt that the Northern Straits Marine Sanctuary could help the region. Fifty-nine percent felt that oil represents a major threat to Puget Sound.

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Notes

The creation of the Northern Straits National Marine Sanctuary involves the federal government, state government, counties, cities, Indian tribes and a host of interested constituent groups. In addition to being a very fluid process, the federal/state relationship in this proposed marine sanctuary has been unique because of its location. In this project, a citizen organization conducted public workshops to begin to form a constituency and balance interests as the process went forward.

SENIORS FOR THE SOUND

SPONSOR

Chautauqua Northwest

PIE FUNDING

$ 27,800

ADDITIONAL RESOURCES

Close to 2,000 volunteer hours and 981 donated staff hours

TARGET AUDIENCE

Active retired volunteers.

AREA COVERED

Soundwide

PURPOSE

To mobilize senior citizens to voluntarily assist state agency staff in gathering data for the Puget Sound Ambient Monitoring Program.

DIRECTOR'S COMMENT

"It is the hope of a better environmental future for their children and grandchildren which sparks the determination and interest of these retired volunteers. Their strong and continuing participation reflects their belief that they are making a difference."

—Jane V.L. Hardy, Executive Director, Chautauqua Northwest

UNEXPECTED OUTCOME

Although the project's original goal was to recruit and train a dozen volunteers (nicknamed the "Anti-Dirty Dozen"), eventually three to four dozen seniors became active participants.

UNANTICIPATED SUCCESS

Seniors for the Sound appears to be the first retiree-based environmental program in the nation. It was featured in a CNN story and was nominated for a national Points of Light Foundation award.

AUDIENCE RESPONSE

"The work isn't glamorous, just essential. We do the legwork to give the experts the information they need to protect the Sound for our children and grandchildren."

—Wally Hintz, volunteer group chairperson

PROJECT COORDINATOR

Jane V.L. Hardy
Chautauqua Northwest
1424 Fourth Avenue
Suite 607
Seattle, WA 98101

(206) 223-1378

PROJECT TIMELINE

1989-1991

Seniors for the Sound, continued

Methods

- Recruiting and training retired volunteers to collect fish and shellfish samples for bacteriological and chemical testing.
- Carrying out a series of sampling assignments under the direction of staff from the state departments of Health and Fisheries.

Results

- A pool of 40 senior volunteers undertook 21 assignments in seven counties around the Sound, collecting and delivering fish and shellfish tissue samples from Elliott Bay, Spencer Spit State Park, Camano Island State Park, Edmonds Oil Dock and other locations.
- The project team co-sponsored the first statewide Conference for Volunteers in the Environment in Olympia in September 1990.
- The conference was a sell-out, enabling project volunteers to share ideas with more than 40 organizations, institutions and businesses in attendance.

Notes

Public involvement can mean many things. Indeed, the more ways that citizens can actively participate in the management of their resources the better. Environmental monitoring is technically demanding, but a cadre of well-trained citizens can accurately sample environmental resources — thereby extending scarce public resources and enriching their own experiences of the environment and the methods of protecting it.

SOUND DESIGN:
Water Quality Awareness for the Design Community

SPONSOR

American Institute of Graphic Artists (AIGA), Seattle Chapter

PIE FUNDING

$ 20,000

ADDITIONAL RESOURCES

In-kind contributions of $ 12,000 in printing and mailing costs and volunteer time.

TARGET AUDIENCE

Professionals and students in the design, printing and photographic industry (including public and corporate communications directors).

AREA COVERED

Soundwide, primarily King County.

PURPOSE

- To plan and implement a peer education program demonstrating effects of production, disposal and recycling practices on Puget Sound streams, wetlands and marine environments.
- To encourage the industry to order, use and market more environmentally safe products and to educate their clients about alternatives to present practices, products and materials.
- To encourage designers and printers to re-evaluate established industry attitudes, aesthetics and practices and promote more responsible use and design of materials.

PRODUCTS

- *Sound Design*, a guidebook on water quality awareness for the design community.
- Set of four posters featuring water quality values and demonstrating environmentally safe printing methods and products.

UNEXPECTED CHALLENGE

The project team experienced difficulty finding accurate non-technical information on the effects of bleach and other print by-products on aquatic life and overall water quality.

PROJECT COORDINATOR

Sharon Mentyka
AIGA/Seattle Chapter
2129 Second Ave.
Seattle, WA 98103

(206) 789-8631

PROJECT TIMELINE

1991-1993

Methods

- Identifying water quality issues most relevant to the industry.
- Involving design students in research on industry waste disposal and recycling practices.
- Conducting tours of paper mills, de-inking facilities, landfills and recycling centers for professionals and students.
- Bringing together industry professionals with water quality experts to develop problem solving strategies and recommendations for action.
- Developing technical specifications and product guidelines for new products, recycling and disposal practices.
- Sponsoring a seminar to disseminate information to industry professionals and their clients.

Results

- Two hundred students, professionals, clients and consumers attended a seminar for the print and graphic arts industry on choices of products and processes, marketing, and disposal and recycling practices and their benefits to water quality in Puget Sound.
- AIGA/Seattle has initiated a permanent Environmental Issues Committee to explore other protective measures for the print and graphic arts community.

Notes

Who advises customers of printed products on what paper and ink they should use? Who tells the paper mills what paper they should manufacture? Who tells ink makers what colors are "hot?" You guessed it – graphic designers. This project was carried out by their professional society and helped designers understand just how much power they have in making papers, inks, printing processes and printed products better for water quality.

SOUNDBOOK

SPONSOR

Marine Science Society of the Pacific Northwest

PIE FUNDING

$ 30,000

ADDITIONAL RESOURCES

Color separations provided by Puget Sound Bank; subsequent printings funded by Puget Sound Bank, Metro, WSU Cooperative Extension, Puget Sound Water Quality Authority and others.

TARGET AUDIENCE

All residents of Puget Sound.

AREA COVERED

Soundwide

PURPOSE

To develop a water quality handbook similar to the *Chesapeake Baybook*, which promotes individual responsibility in protecting Puget Sound.

PRODUCTS

Puget Soundbook

PROJECT COORDINATOR

Jim Kolb
Marine Science Society of the Pacific NW
Poulsbo Marine Science Center
P.O. Box 2079
Poulsbo, WA 98370

(206) 779-5549

PROJECT TIMELINE

1990-1991

Methods

- Convening a technical advisory committee, including people from government, business, industry, education and science to assist in developing the handbook.
- Defining issues and actions suggesting specific activities for people to take with Soundwide application.
- Distributing Soundbook through Metro, the city of Everett, Puget Sound Bank, Poulsbo Marine Science Center and the Puget Sound Water Quality Authority.

Results

- Over 60,000 copies of the Soundbook have been distributed.

Notes

What basic information about water quality should be available in every household in Puget Sound? For starters, information about the Sound—its size, major rivers and diverse resources. Next, personal pollution prevention strategies that each person can use to protect the Sound. Finally, a directory of additional information resources. It all adds up to the "Puget Soundbook," an attractive, easy-to-read resource for families throughout the Sound.

Spawning Action Through Water Quality Education

Sponsor

City of Olympia Department of Public Works

PIE Funding

$ 22,000

Additional Resources

$ 10,000 from the Olympia Storm and Surface Water Utility.

Target Audience

Soil engineers, government staff, students, parents and the public.

Area Covered

Olympia and surrounding community.

Purpose

- To increase public awareness and motivate changes in behavior that will reduce pollution in Puget Sound.
- To implement priority elements of Olympia's local strategies—public education and outreach, volunteer training, and coordination, evaluation and development of a funding base for local action.

Products

- *Action Grants for Olympia Schools: A Proposal for Funding K-12 Water Resources Education.*
- *Forest, Stream and Sound: A Guide to Conducting Water Quality Camps for Children and Families*, with resources, activities and curriculum.
- *Stream Team Sediment and Erosion Control Workshop* video.

Unexpected Challenge

Teachers were not highly motivated to save their schools money through stormwater utility credits (nor was the utility eager to take on the additional administrative efforts to make the program work). However, teachers were anxious to bring funds and activities directly into their classrooms, so funding was redirected into grants for schools to offer action projects.

Project Coordinator

Liz Hoenig
City of Olympia
Public Works Dept.
P.O. Box 1967
Olympia, WA 98507

(206) 753-8314

Project Timeline

1991-1993

Methods

- Creating Day Camp and Family Fun Days programs for children and families to explore stormwater, wetlands, shellfish, and fish and wildlife habitat.
- Sponsoring seminars for consulting architects, engineers and other development professionals on soil characteristics and their effects on water infiltration, drainage, erosion, wetlands and vegetation.
- Offering seminars and follow-up field activities and obtaining feedback on requirements of Olympia's newly adopted Drainage Design and Erosion Control Manual.
- Developing a "how-to" kit to encourage replication of the project by other jurisdictions.
- Developing a resource guide for Olympia area schools to obtain stormwater utility rate reductions through educational activities and applications of best management practices for managing stormwater runoff.

Results

- Two drainage and erosion control training seminars followed by a half-day field trip were attended by 84 development professionals and Stream Team volunteers.
- Fifty copies of the *Action Grants for Olympia Schools* guide were produced to assist schools in getting funding for water quality education.
- A total of 73 people participated in Day Camps and Family Fun Days. Twenty-three campers completed Backyard Bingo game cards for prizes.
- Response at the camps was so enthusiastic that they are being continued with other funding sources.

Notes

Mobilizing a community to act on behalf of clean water requires a range of strategies, each tailored to specific audiences. This program built on the community's strengths — well-coordinated youth and family recreation programs, the city's strong ties to the school district and a business community eager to become partners. In this project, critical roles were found for many "new" players.

Team Consultations for Small Businesses

Sponsor

Small Business Center for Education

PIE Funding

$ 16,200

Target Audience

Small business owners and staff of regulatory agencies who inspect small businesses and insure compliance with hazardous waste regulations.

Area Covered

King, Thurston, Pierce and Snohomish counties.

Purpose

To educate businesses and agencies on pollution prevention and its relationship to the protection of Puget Sound.

Products

- Four different brochures about hazardous waste management for small businesses.
- Collaborative field inspection sheets.

Unexpected Challenge

Two warnings were issued for conditions representing "extreme hazards" during the inspections. In one instance, problems that produced these conditions were being corrected before the team left the site. In the other, formal citations were issued to the business.

Audience Response

"[It gave me] a clearer idea of the full regulatory circle. Each agency does not and cannot act in isolation for the business community to...meet... environmental laws."

—Participating inspector

Project Coordinator

Mike Fagin
Small Business Center for Education
400 108th Ave. NE
Suite 610
Bellevue, WA 98004

(206) 453-8621

Project Timeline

1989-1991

Team Consultations for Small Businesses, continued

Methods

- Designing and distributing a collaborative field sheet for use by regulatory agencies.
- Producing resource documents for print shops, auto service and body repair shops, and boatyards and marine repair shops.
- Training field inspectors from regulatory agencies.
- Performing site visits to gather information about hazardous waste management needs and to present written reports to business owners.
- Exhibiting resource documents and taking orders for copies.

Results

- Fifteen sites were visited and 46 field inspectors representing 17 regulatory agencies were trained.
- 2,700 resource documents were distributed to business associations, regulatory agencies and individual business owners. These documents were also displayed at Waste Information Expo '90.
- Collaborative field inspection sheets were distributed to 33 participating businesses and agencies in the four-county area.

Notes

The Small Business Center for Education is a nonprofit organization dedicated to assisting small businesses cope with the demands of today's business climate — including environmental regulations. In this project, they assembled a team of voluntary "site inspectors," teaming regulatory agency personnel with business people. The teams then visited individual businesses. Some of the most significant learning took place among the teams themselves as business operators and regulators shared perspectives and developed common performance standards.

We All Eat the Fish

Sponsor

Central Washington University Continuing Education, Ellensburg

PIE Funding

$ 26,000

Additional Resources

The project team donated additional time to complete the interactive video, staff the booth and compile materials for the master curriculum.

Target Audience

Central Washington's rural communities and people attending county fairs in central Washington.

Area Covered

Grant and Kittitas counties

Purpose

- To promote personal responsibility for Puget Sound in areas of Washington east of the Cascades.
- To help people transcend the "out of sight, out of mind" attitude with regard to Puget Sound water quality.

Products

- Booth on Puget Sound water quality, including 30-foot backdrop of the Puget Sound watershed.
- Multimedia education package, including an interactive video.
- Family workshops: "Happiness is Clean Water," "Save Our Salmon," and "Household Hazardous Products."

A Life of its Own

- One high school teacher had the project team train 20 of his students, who then delivered the program at the Quincy Valley Consumer Awareness Day celebration.
- Materials from this project will be used at the Ellensburg Children's Museum.

Audience Responses

Most of those polled said citizens in eastern Washington should be concerned about pollution in western Washington. Fifty-two percent said we do not need more laws to protect the environment.

Project Coordinator

Martha Duskin-Smith
CWU
Non-Credit Programs
Ellensburg, WA 98926

(509) 963-1504

Project Timeline

1989-1990

We All Eat the Fish, continued

Methods

- Developing a multimedia informal education package.
- Creating and staffing a booth about Puget Sound issues at county fairs.
- Conducting a public outreach program to spread the information developed for the fairs.

Results

- An estimated 12,500 county fairgoers had the opportunity to learn about Puget Sound through an informational flyer, an interactive video, demonstrations on safe alternative products for home use and "eco-craft" projects for young people.
- A survey of peoples' attitudes was conducted at the booth, and a limited follow-up survey was conducted by telephone. At the booth, 1,506 people responded. Sixty-eight percent of survey respondents felt that water pollution in Puget Sound is a problem for all residents. Seventy-two percent felt that citizen action for stopping pollution can start at home.
- Environmental awareness activities were presented at daycare centers and with senior citizens with the help of local radio stations and the R.S.V.P. senior citizens' group.
- Materials from this project are available on request.

Notes

Puget Sound is a treasured resource to all Washingtonians, not just those west of the Cascades. This project, conducted in two eastern Washington counties, tried to penetrate the "Cascade Curtain" – the cultural and geographic boundary separating the rural east from the urban west.

YOUTH SERVICE CORPS SYMPOSIUM

SPONSOR

YMCA of the USA: Office for Asia

PIE FUNDING

$ 20,000

ADDITIONAL RESOURCES

Donation from the Seattle Jaycees to cover food costs for the leadership weekend.

TARGET AUDIENCE

Students from the Earth Service Corps clubs.

AREA COVERED

Seattle area

PURPOSE

To develop future leaders who are well informed and committed to making a positive contribution to the environment.

PRODUCTS

How to Start an Earth Service Corps Club training manual.

A LIFE OF ITS OWN

Seed money from the PIE Fund helped to initiate a project now funded at over $1.5 million, with chapters in 11 U.S. cities.

AUDIENCE RESPONSES

"Preserving the environment is important. It's kind of our job as youth to do something about it."

—Christa Bindel, student at Nathan Hale High School

PROJECT COORDINATOR

Nan Little
YMCA of the USA:
Office for Asia
909 Fourth Ave.
Seattle, Wa 98104

(206) 382-5013

PROJECT TIMELINE

1989-1991

Youth Service Corps Symposium, continued

Methods

- Sponsoring an Experience Day on scientific aspects of the environment.
- Hosting a symposium and Leadership Weekend.

Results

- The day-long symposium drew 315 students from 23 high schools and included discussions on environmental issues and role-playing exercises.
- During the Experience Day, student teams were sent to an aquaculture facility, a sewage treatment plant, an old growth forest, a wetland site, several recycling operations and a research vessel.
- During the Leadership Weekend, 40 students gathered at Fort Worden State Park to plan a range of events for the upcoming Earth Day celebration.
- Participants monitored water quality in five creeks and taught classes in the techniques at three elementary schools.

Notes

Tomorrow's leaders are today's kids. Whether they become active or apathetic adults will depend on each one's sense of confidence and power to influence what is right and wrong. Youth Service Corps links youth leadership skills to environmental problems that occur in neighborhoods where kids live. The mix is perfect — the water quality solutions are close to home, where positive experiences have the most impact in the shaping of lives.

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